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Republican Indonesia Tries Its Wings
With 43 Illustrations and Map
32 in Natural Colors
W. ROBERT MOORE

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THE NATIONAL GEOGRAPHIC MAGAZINE

Republican Indonesia Tries Its Wings

By W. Robert Moore

With Illustrations from Photographs by the Author

THE NEW Republic of Indonesia has spread fledgling wings—the wings of a Garuda.

The Garuda is a mythical golden bird of ancient Oriental legend, but, as portrayed on Indonesia's new national coat of arms, it looks remarkably like our own American eagle. It carries in its talons, rather than its beak, the motto *Bhinneka Tunggal Ika* (Many Remain One), which has almost the same meaning as our *E Pluribus Unum*.

The similarity is hardly a coincidence, for Indonesia's leaders like to compare their five-year struggle for independence with our American Revolution. Many of their slogans have been taken from words of George Washington and Abraham Lincoln. The Republic's constitution, in part, is patterned after ours.

80,000,000 People on 3,000 Islands

Physically, Indonesia bears little resemblance to the United States. Somewhat smaller in land area than our Thirteen Original States, Indonesia consists of a chain of 3,000 lush volcanic islands strewn along the Equator all the way from the mainland of Asia to the northern tip of Australia, a span of 3,000 miles (map, page 6). On these islands live 80,000,000 people, nearly as many as in Japan.

Twice in the last five years, while in the Far East, I had made tentative plans to visit the islands. Both times heavy fighting had broken out to halt my going. Last May, in Bangkok, Thailand, I received a cable that my application for a visa was approved, provided I made my own arrangements for accommodations.

"That may mean sharing a room with others or staying with friends," said the genial consul with whom I talked. "Our hotels are crowded, but I believe that such a condition is not restricted to my country."

I agreed.

"Have you visited Indonesia before?" he asked, without looking at the multiple copies of the entrance form I had filled out.

I mentioned that I had been in Java and Sumatra many years ago and had done articles and color photographs on both islands.*

"Then you are familiar with my country, but you will find many changes now," he said.

Indonesians Hail *Merdeka* (Freedom)

One of the first changes I found when I reached the islands was in the place names. Dutch names, many of which existed during the 300 years of colonial rule, are gone. Indonesian ones have taken their place.

Flying to Java, I landed at Djakarta, new name for old Batavia. Buitenzorg, formerly the residence of the Dutch Governor General, inland in the mountains, now is Bogor. Government offices and streets bear Indonesian names.

The big rectangular greensward in the center of the modern section of Djakarta, once known as the Koenigsplein, has become Lapangan Merdeka (Freedom Place).

Merdeka (Freedom), a key word among the Indonesians ever since they announced their independence immediately following the capitulation of the Japanese in World War II, is

* See, in the National Geographic Magazine: "Among the Hill Tribes of Sumatra," February, 1940, and "Through Java in Pursuit of Color," September, 1929, both by W. Robert Moore.

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Java's Batik Artists Create Designs on Cotton with Wax and Dye

Protective wax, applied to the fabric, prevents the dye from penetrating noncolor areas. After dipping, the wax is boiled off. For each fresh color, the process is repeated. Women (above) outline designs with tiny tubes of wax. Men use large brass stamps. The pair on the right cover one area in two stampings.

Bonne Briand, Black Star

Strung on a Roasting Spit, This Suckling Pig Soon Will Become a Barbecue Dinner

The laughing Balinese gives assurance that roasting will be done to a turn, for his job is to rotate the pig over a charcoal fire. The girl ladles in stuffing made of chopped herbs and condiments. Roast pigs are offered to gods at temple festivals, and eaten later by the people.

seen and heard everywhere. There are Mesdeka streets, squares, and hotels; "Merdeka" also has become a formal salutation.

Today Djakarta, capital of the Republic, is busy and congested. In hotels I shared rooms with as many as five other persons. Houses are at a premium.

"Band Music" for Pedal-cab Riders

Among the motorcars, trucks, and squadrons of bicycles that crowd the streets, I saw only a few of the old familiar two-wheeled pony carts. Most of them have given way to the *betjaks*, three-wheeled bicycle-rickshas in which the rider sits precariously facing traffic while a man pedals from behind. Gaily painted, and labeled with equally colorful names, they are the poor man's taxis.

In some I heard odd musical humming sounds as I rode. Finally I located the source; between supports underneath the chairs pedalers stretch long rubber bands which vibrate in the wind when the betjaks are in motion.

Djakarta's streetcars seem always jammed to capacity. I was advised to shun them, for fountain pens and pocketbooks are apt to disappear. During the recent years of strife many lawless persons have gravitated to the cities, where they can "pick" an easy living.

Many streets in old Batavia are unsafe to travel at night. By day, however, I roamed narrow lanes in the old section, saw the numerous Chinese shops, and watched Javanese womenfolk washing clothes, vegetables, their youngsters, and themselves along the canals.

I priced black-market American cigarettes sold by street hawkers and found that, at the bank rate of exchange of roughly 7½ rupiah (guilders) to one United States dollar, they cost 90 cents a package.

One popular local brand of cigarettes which in Djakarta cost me the equivalent of 40 cents, I bought later in Djokjakarta and Bali for 33 cents; in Sumatra they were 80 cents.

Festive Balinese Mourners Carry a Bier Across a Stream to Confuse Water-hating Demons

These villagers gaily splash one another to demonstrate happiness over a friend's release from earthly cares. At road intersections they thrice turn the funeral carriage around to prevent evil spirits returning to the family home. Finally they give bier and body to the cremation pyre.

Balinese spend much money and elaborate effort on cremations; some families save for years to raise funeral funds. During such long waits the body remains buried until cremation honors can be paid for. Meanwhile, additional deaths may occur in the family. In such cases all the dead are cremated in a single ceremony.

At one Balinese home the author saw mourners making a bier of bamboo and paper. A coconut-oil lamp burned at the gateway and food offerings were spread around the coffin.

Dieter Bölsel, Black Star

Commercial Photo & Advertising Co., Inc.

Indonesians, Shouting *"Merdeka!"* (Freedom), Throng Around Their First President. His Car Barely Moves Through Djakarta

Fifty-year-old President Soekarno, son of a Javanese father and Balinese mother, is the infant Republic's George Washington. His left-hand companion (in military uniform) is Vice-Premier Hamengku Buwono IX, Sultan of Djokjakarta, Java. During Indonesia's fight for freedom, the Sultan led anti-Dutch forces.

Drawn by H. E. Eastwood and Irvin E. Alumer

The New Indonesian Republic Is the Old Netherlands Indies Minus New Guinea

The black-market exchange on smuggled American dollars, I was told, was anywhere from 25 to 30 rupiah for a dollar.

Leaving Djakarta I took to the wings of the Garuda—the Garuda Indonesian Airways—to see other parts of Indonesia. The Garuda airways form an elaborate network throughout the island chain, linking the larger cities.

Formerly operated by the Dutch, the airline now is owned by Indonesians; management is jointly controlled. The pilots are Dutch, the office force Indonesian.

I flew first to Djokjakarta (usually abbreviated to Djokja), capital of the old sultanate of central Java, and for a time center of the Republican movement.

It was late May and the dry season supposedly had begun. But the night before I left it rained heavily. The morning dawned clear, and, as was often the case while traveling in Indonesia, I saw dawn from the airport.

Rains had washed the sky clean of dust and smoke. Below us spread the island's sparkling, gardenlike plains; steep volcanic mountains were sharply etched on the horizon to the south. Rice fields formed vivid green-and-gold patches or shone like silver where diked plots had just been flooded for a new crop.

Terraces stairstep every ravine and riverbank and contour the gullies. Other terraces clamber up the steep sides of the mountains (pages 28 and 29). Farm villages cluster in groves of coconut palms and other trees beside the open plains and deeper green plantations.

Plumes Curl from Brooding Volcanoes

Less than an hour out of Djakarta we came abreast of Tjarème volcano, passing so close that our left wingtip seemed almost to brush its wooded slope. Although we were flying at 8,000 feet, the upper part of its cone towered 2,000 feet above us.

Soon we passed still higher Slamet. Second highest peak in Java, it rears to 11,247 feet.

As we neared Djokjakarta, a row of sharp peaks loomed before us. From one of them, Merapi, issued a curling white plume of smoke (page 27). In all, some 300 volcanoes form a knobbed backbone the length of the Indonesian archipelago. Sixty are active. Some are fire-breathing monsters, but the island soil is rich from the ashes, mud, and lava that have poured from their craters.

At Djakarta we had passed through customs before we boarded the plane. When we arrived at Djokja, we had to go through customs again. Health authorities checked our vaccination certificates to see that we were immune to smallpox. Those without certificates and those who left them behind had to roll up their sleeves and be vaccinated by the doctor.

Throughout my tour in the islands I found customs counters at almost every airport. Now that Indonesia, since August 17, 1950, is reorganized into a single unified Republic, rather than a federation of States, such formalities may eventually be abandoned.

Since the country has gained independence and its capital is now Djakarta, Djokja no longer is so active as when it was headquarters of the Republican forces. Comparatively little damage was done to the city when the Dutch, in 1948, moved in during their second police action.

Art of the Batik Makers

While wandering about the city I saw the world-famous batik makers at work. Both with metal block stamps and by hand they applied wax to the cloth to cover it for the various stages of dyeing. Managers complained that they were forced again to use native vegetable dyes instead of synthetic dyes from Europe, but the sarongs and scarfs they produce are softer in tones for the shortage (page 2).

In other shops I found silversmiths hammering and polishing pieces of silver. Handicraft workers also cut beautifully filigreed fans, *wayang* (shadow play) puppets, and dancers' headdresses and neckpieces from goat skin and buffalo hide.

The large array of buildings of the Kraton, or Sultan's palace, seemed almost deserted. Batik-turbaned retainers who showed me around wore wavy-bladed *krises* tucked in the back of the belts girding their long sarongs.

Hamengku Buwono IX, the Sultan of Djokjakarta, is absent from his palace much of the time, but he returned briefly during my stay. Young and progressive, he had commanded the anti-Dutch Republican forces and is now Vice-Premier (page 5).

Traditional Javanese dances are rarely given at the palace now, but one of the scholarly princes, Tedjakusuma, conducts a school to train young students in the classical art. When I visited his school youngsters no more than 7 or 8 years old were learning difficult postures, how to move arms and legs in proper rhythm, and how to flutter their fingers.

Later I had opportunity to photograph mature dancers enacting episodes drawn from ancient Indian epics, the *Mahabharata* and *Ramayana*,* while rich mellow gongs and

* See "Pantomime of the Siamese Stage," by D. Sonakul, NATIONAL GEOGRAPHIC MAGAZINE, February, 1941.

drums of the gamelan (orchestra) furnished the music (page 31).

Out in the countryside around Djokja men and women worked in the rice fields. Every stage of rice growing can be seen within the radius of a few fields, for tropical Java has no well-defined seasons (page 35).

In some fields harvesters nipped the ripened heads with small knives held in the palms of their hands.

Elsewhere groups of farmfolk waded nearly knee-deep in water and mud, transplanting young rice seedlings. Farmers scratched dry soil with primitive ox-drawn plows or churned the mud with wooden-toothed harrows.

Centuries-old Farming Methods

When the huge stone Buddhist temple of Borobudur and the Hindu temples of Prambanan were built on the central Java plain some 1,100 years ago, farmers were probably using the same methods as now.

To get to Borobudur, some 20 miles northwest of the city, I had to take the long way around. A bridge was under repair. Along the way we met many oxcarts coming to market. Sides of the cart bodies and their big woven canopies are decorated with vivid painted patterns (page 32).

At Magelang I saw dramatic results of the 1948 fighting. Most of the large buildings in the city had been damaged or completely wrecked, either in military operations or in the scorched-earth tactics adopted by the Indonesians. En route we also saw a large sugar mill that had been smashed and burned into a junk heap of twisted girders and broken machinery.

I had seen ancient Borobudur before, but again it was a thrill to swing around a curve in the highway and see its terraced pyramid and stone dagobas rising above a low hill against a backdrop of higher green mountains.

Trying my legs on its steep stairways and walking around its carved-wall terraces, I appreciated how grandly the 9th-century Buddhist artists built. They encased a whole hilltop with stone, pictured the life of Buddha in deep carvings, and climaxed the temple crown with numerous Buddhas set in latticed stone shrines (page 30).*

Apparently early Buddhists and Hindus dwelt peacefully side by side, for only a few miles eastward from Djokja are the extensive ruins of Hindu-built Prambanan (page 27).

Despite the rebuilding necessary to erase recent war destruction, I saw workers busily reconstructing the fallen stones of ancient Prambanan, a task begun by the Dutch. The job is like trying to piece together a colossal jigsaw puzzle, for within its walled enclosure stands the large shrine to Siva, seven smaller shrines, and scores of small cell-like buildings.

Though Indonesia now has its independence, the country is plagued by many problems in its return to peace. There is still unrest among some dissident groups. When I asked to go to Surakarta (Solo), seat of the second sultanate, just northeast of Djokja, I was advised not to go. Some young hotheads had taken to stoning cars on the highways.

Supporters of the *Darul Islam* (World of Islam) in the mountains around Garut, in the southern portion of western Java, are unreconciled. Many young men who fought with the Dutch also roam the countryside, using their weapons to compensate for their unemployment.

In the vicinity of Surabaja, chief city and important naval base in eastern Java, bands of guerrillas were active.

During the three years of Japanese occupation there was considerable dislocation of agriculture. Food was not allowed to be transported from one district to another; each district had to become self-sustaining. Consequently, lands which grew such export crops as sugar, tapioca, and Sumatran tobacco were turned to raising food.

The subsequent struggle between local and Dutch forces not only delayed the return to normal but added to the destruction. However, the 1949-50 rice crop of about 6,500,000 tons is almost up to prewar levels. Native rubber production is above prewar years, but plantation rubber is about 70 percent of its normal amount.

Because of large postwar investments of foreign capital to rebuild oil installations in Borneo and Sumatra, oil output is the highest ever.

In 1949 the yield of crude oil was 43,206,000 barrels, and refineries, importing some crude, produced 47,531,000 barrels.

Bali Seems a World Apart

It is a flight of only 1½ hours from Surabaja to Denpasar, on the island of Bali. Most of the flight is over land, for, geographically, Bali has escaped being attached to Java by only a little more than a mile-wide span of sea.

This has been an important, if narrow, water gap. Crossing it, I felt I had reached a distant land and a different age.

From the 13th to the 16th centuries, when Islam swept over Sumatra and Java, its influ-

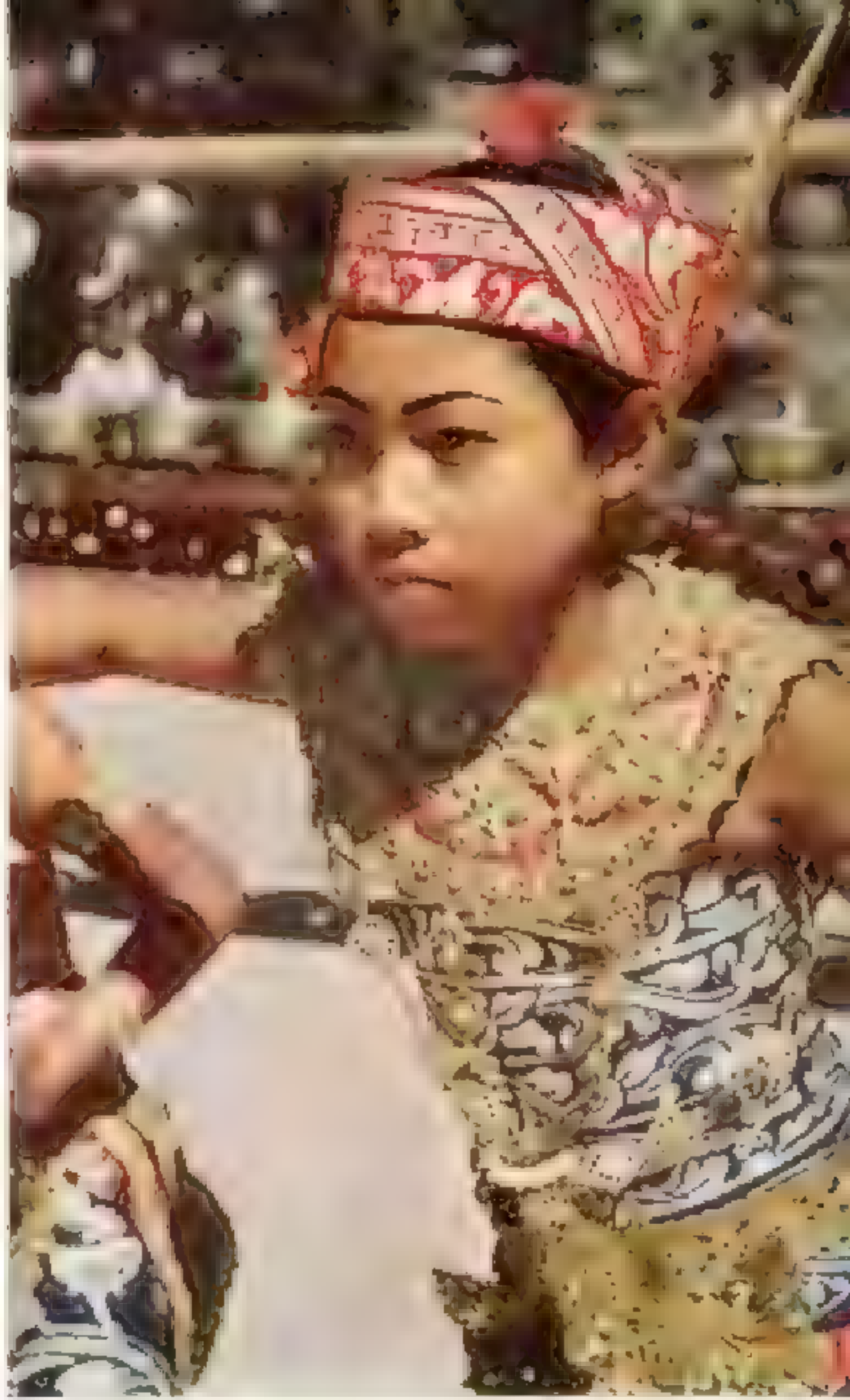
* See "Postwar Journey Through Java," by Ronald Stuart Kain, National Geographic Magazine, May, 1948.

Kodachrome by W. Robert Moore

Balinese Dancers, Faces Intent Beneath Sunburst Crowns, Await Their Cue

Bali's colorful dances, interrupted by the Japanese, have resumed as happily as ever. Indonesia's independence struggle left the blissful island undisturbed. These girls wear the *djanger* headdress at a Denpasar temple.

Bali Dancers Make Up Their Faces with Powder, Lipstick, and Greasy Paint



Heads Jerk, Eyes Glare and Arms Twist in Angular Postures. Ten-year-old Legend Dancers Are Professionals

Telephone Players, Using Only One Hand, Tap Tinkly Notes on Bronze Keys

* Hula Girls Dressing for a Dance, Wrap One Another Like Mummies

[illegible]

* Agile Dancers Fix Many Threads Wearing Patterned Cloth

[illegible]

Regional Rice Crops Bali's Valleys: Peasants Turn to Wilds Alone

[illegible]

[illegible]

Rice Springs Green from Baby Green Tiny, Watery Fields Mirror the Palms

[illegible]

Bali's Three-headed Gods Are Hindu. Temples Soft Stone Can Be Carved Like Baked Clay

ence halted at the shores of Bali. Instead of raising mosques to the Prophet, the Balinese continued to build elaborate stone and brick temples to their Hindu gods—and still do.

While Java, Sumatra, and other islands bear new war scars, in Bali it seems almost as if war never had been.

The Japanese, I was told, had halted dances and large temple feasts, but again communities have organized troupes of dancers, and the rhythmic gamelans seem not to have missed a single beat of their gongs.

Hindu temples, feasts, glittering dances, tinkling music, weird stone gods, graceful golden-bronze bodies, cockfights, lofty volcanoes, and spectacular rice terraces—all are here. Bali is unchanged, unspoiled.*

I traveled anywhere I chose and encountered only smiles and cordiality.

The Balinese love their island and their gods. Tilling the plains and steep mountain terraces, they build temples to their rice goddess (page 25). Growing coconuts, coffee, fruit, and other nonirrigated crops, they dedicate a temple to that agriculture. Dancing, they entertain their gods and at the same time entertain themselves.

Many photographs and much copy have been made of the bare breasts of Balinese women. Balinese in Java are shocked at the revelation of legs by Western women wearing shorts and abbreviated bathing suits.

Bali's civilization is ancient, its traditions and practices tested by time; their customs suit the Balinese, so why change?

Twins of Different Sexes Bad Luck

At a crossroads near Denpasar I saw a small temporary shack with matting side walls and a thatch roof, set near a grotesque stone god. I inquired what it was for.

"It's a house for a woman who has given birth to twins," said the islander who was accompanying me. "A woman who has twins, a boy and a girl, has to move from her own house and stay at a road crossing or a cemetery for 42 days."

"What if the twins are both boys or girls?" I asked.

"That's all right; it's bad luck only when they are a boy and a girl."

I asked if the youngsters were well and who took care of the mother and children.

Yes, the babies were doing well. Relatives and the husband took care of the mother and brought her food.

"Let's go in and see them," the man suggested.

We went to the flap entrance, announced our presence, and were immediately invited inside. The father was there, fondling his young son; the mother, nursing the girl. Both babies were healthy and alert.

"They have to stay here eight days more," the father said.

When the 42 days are up, the thatched hut is burned and the mother has to go through a [illegible] before [illegible] home; the dwelling in the meantime is rebuilt.

Teeth Filed as Mark of Maturity

Farther along the road, as we passed through a small village, we saw several people carrying gifts into a mud-walled enclosure. Inquiry revealed that they were going to a tooth-filing ceremony.

In the courtyard of the household a raised pavilion had been built. In it was a bed, a man seated at the head. On either side of the pavilion were racks filled with offerings of fruit, meats, rice, and flowers, built into tall brilliant cones. Long decorative streamers hung from the pavilion.

Over at the side of one of the houses a tall thatch-roofed platform of bamboo had been erected. On it sat a wispy-bearded Brahmin priest, alternately chanting prayers and tinkling a small bell.

Two youths in their early teens were to have their teeth filed as a symbol that they had reached maturity. The "dentist," who sat at the head of the couch, had the boys bite into a piece of sugar cane. After studying the "bite," he evened off the irregularities of the points of their teeth.

The boys' teeth showed little difference after the filing, but they had attained mature position in the eyes of the community.

As I drove about the island, I saw a fantastic number of temples—village temples, family temples where members placed offerings to their ancestors, and personal temples, shrines to Siva, Vishnu, and Brahma. Tiny spirit shrines dot the rice fields.

Many of the large brick-and-stone structures seemed hoary with age, but on their gateways and walls carvings pictured bicycle riders, policemen on motorcycles, a goggled airplane pilot zooming down among sculptured demons and gods, and a Dutchman drinking beer!

The gray volcanic building stone is so soft that it weathers quickly in Bali's moist climate. "Ancient" shrines may be no more than 30 or 40 years old.

I watched workmen carving gods, demons,

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "Bali and Punta East," by Maynard Owen Williams, March 1936, and "Great Adventures on the Island of Bali," by Franklin Price Knott, March, 1925.

and flower decorations on two crumbled temples. Details took shape rapidly under their knives and chisels. The stone is little harder than sun-dried clay and can be scratched with the fingernail (page 19).

Looping through villages on the plains north of Denpasar, we came upon busy markets where district folk congregated with grains, fruits, vegetables, and other wares. Women filed along the roads balancing heavy burdens on their heads (page 29); men carried produce on shoulder poles (page 32) or walked along unencumbered.

In some villages home workers shaped clay vine vases on hand-turned potter's wheels and stacked the "green" pots in kilns for firing. Elsewhere carvers chiseled and polished beautifully fashioned heads and figures of wood, or etched delicate designs on bone, horn, and coconut shells.

Lazy sway-backed pigs grunted in courtyards of family dwellings. Tattered, they are toted to market in big openwork bamboo baskets, often piled into trucks like cordwood.

Along the roads we saw countless fighting cocks sunning in wicker cages or being groomed by their masters (page 26). When the Dutch were here they frowned upon Balinese cockfighting, but often turned their heads when men got together for a lively cockfight in some inconspicuous place.

One day we saw carts parked by the roadside and people slipping off into bushy village paths. We decided to follow. A cockfight was in the offing.

Under a thatched pavilion competitors were matching up birds of equal size and weight. Opponents selected, the men attached sharp metal spurs to the cocks' legs. There was a flurry of feathers as the first two birds clashed. Evenly matched, they struck no lethal blow and were later separated. Some fights to the death last but an instant.

"Fishing" Food from the Air

[illegible] making a picnic of rice harvesting. Some women and children who accompanied the harvesters mystified me. They were carrying long slender reed wands like fishing rods, but they certainly were not fishing.

Although I have seen people catch fish in flooded rice plots, these fields were dry. Furthermore, the rods had no lines. Yet the women and youngsters seemed to be intently casting. So I stopped to find out what they were doing.

They were catching dragonflies! The wands were smeared with sticky gum, and dragonflies disturbed by the harvesting were lured to alight on the sticks. Some "casters" also flicked their poles at the winging flies and snatched them from the air (opposite).

"What do they do with them?" I asked my companion.

"Eat them," he answered. "They are good."

Like most visitors to Bali, I went to see the centuries-old tombs at Tampaksiring, near the center of the island. Some ruler had ordered elaborate monuments hewn for himself and his wives in the solid stone walls of the canyon.

Not far distant another early monarch, warring with his neighbors, had a poison spring pour from the ground to poison his enemies. But the gods intervened. A sparkling spring of pure water now gushes in its place and is piped into a large community bath. One outlet is dry as proof of the fate of the poisoned water.

In the sacred forest of Sangeh we bought peanuts and corn for troops of greedy monkeys. When the *pala* (nutmeg) trees of the forest fall of their own accord, they are used to build temples.

Three main roads cut across the island to its northern coast. The more easterly one winds over the mountains almost in the shadow of Agung, also called the Peak of Bali, for it is the island's highest. Its sacred symmetrical cone towers to more than 10,000 feet (p. 26).

Twisting up the highway to the mountain saddle, we came to Kintamani, a corruption of Djinta Mani, meaning "Beautiful Ring." The ring is the rim of a huge volcanic crater within which is cupped Lake Batur.

On the western side of the crater rises a volcanic peak, also called Batur. Several times in earlier Balinese memory it erupted. Once its lava flow halted at the very gateway of the village temple on the plain below. In 1926 it erupted again. The Dutch had difficulty evacuating the people when it became evident that the lava stream was not going to stop as it had before. The abandoned village was completely engulfed.

Batur's slopes and the old crater floor bordering the lake are blackened with the lava flow. Near its summit two or three vents emit small clouds of smoke.

The mountain range extends east and west the full length of the island. Three other lakes somewhat smaller than Batur are cradled in the hills near the central east-west island road.

Scarlet poinsettias growing wild in the cooler highlands, splash the green slopes (page 14). In places they are planted as hedges around pastures where graze Bali's dainty-hoofed cattle. Throughout the archipelago, Bali cows are raised for slaughter rather than

"Fly Rod" In Hand, a Balinese Woman Fishes for Dragonflies

In this harvesttime sport, flies flushed by the reapers are enticed to alight on the sticky wand or are trapped on the wing by a drill cord. Later, they are fried and eaten.

for milk. Because of heavy depletion of stock during the war, the number for export is still low.

On the northern slopes of the mountains we wound through coffee plantations and amid a magnificent array of rice terraces (page 15). Diked rice plots mount the steep hillsides like gigantic staircases, but up these no giant cows climb without getting his feet wet!

Singaraja and its adjacent port of Buleleng bear a strong imprint of the Dutch. Many of the buildings are Western style, and the palace of the district rajah is decidedly modernistic.

Girls Wrap Like Mummies for a Dance

Returning to Denpasar late one afternoon, I saw people carrying offerings to a temple and learned there was to be a *djanger* dance in the evening.

Later I watched village girls transform themselves into glamorous dancing queens with grease paint and resplendent garments.

Those who believe the girls of Bali never wear blouses should see how they gird themselves for the dance. Above long sweeping sarongs they wrap their bodies from armpits to hips like tightly encased cocoons (page 15).

Eyebrows are darkened, then shaped with a razor, and a new hairline is painted on the girls' foreheads to fit their sculptured crowns (pages 9 and 10). A gem-studded [illegible] piece, armbands of gilded filigreed [illegible], and fresh frangipani flowers in the hair complete the costume. White dots added between eyebrows and at the temples are special beauty marks of the dance.

Although the *djanger* is primarily social entertainment, no participant would think of beginning a performance without first touching her lips to a cup of holy water and dropping a blossom as an offering on the shrine.

A dozen girls and an equal number of less ornately dressed young men seated themselves in an open square, girls occupying two facing sides, boys the other.

A Southern Bride Gets a Rare Blessing; Her Bridegroom Rides Pickaninny

Summer Workers Transplant Forest Nurseries on Mountainsides

[illegible]

For two hours a circle of hundreds of intent Balinese and a few foreign visitors watched fluttering fingers and sinuous arms and bodies as singing and acting alternated between the young men and girls, while a small gamelan played from the banyan tree "wings."

The djanger, I learned, began as the "belem" of Balinese entertainment some years ago, after a Malay theatrical troupe visited the island. Today it has attained dignity and even at times includes episodes of classical folklore.

Perennial favorite of Balinese dances, however, is the *legong*, performed by two or three young girls to the accompaniment of a large orchestra of brass gongs, cymbals, drums, and metallophones (page 18).

[illegible] the girls move with regular motions of arms and [illegible] bodies [illegible] side to side and eyes flash. A reciter tells the legend they portray.

Legong Dancers Trained from Childhood

These young girls are no amateurs. They train almost from the time they are babes; their careers end before they reach their teens.

Deeply exciting too, were the massed chants of the men in the *ketjak*, or so-called monkey dance, I saw one evening at Bona. Two hundred men, bare to the waist, sat in concentric circles about a light standard upon which coconut-oil flames burned. Their voices rose and fell; as notes trailed off in one portion of the circle, they were caught up in another.

One moment the bronze-bodied players were in sitting position, in another they had thrown themselves back, circle against circle; then suddenly arms and fingers fluttered skyward as voices excitedly cried "Ke—tjak—ke—tjak—ke—tjak."

Northeast of Bali, in Makassar and Amboina, disturbances had broken out; instead of going there I flew back to Djakarta and thence to Sumatra.

Sumatra is big and, as we flew diagonally across its southern half to Padang on the west coast, it seemed almost uninhabited. Forests cover its plains and its rugged backbone of mountains. In only a few places do I see rice fields and plantations.

About 3½ times the size of Java, Sumatra has less than a fourth the population of that crowded island.

Padang nestles amid coconut palms beside the sea. Its harbor, Telukbajursumatera, some three miles away, formerly called Emmahaven, is an outlet for coal and for farm produce of the fertile Padang Highlands.

At Padang I shared a hotel room with a young Dutch agriculturist who maintained large truck gardens and a dairy in the Bandung district in the hills of west Java. He had built up a sizable business furnishing Djakarta hotels with safe fresh vegetables, sanitary milk, and butter. Quantities of vegetables, especially lettuce and cauliflower, were also shipped to Singapore.

Now this enterprising man was waiting for a ship bound to Silogi, where he was going to investigate the Tapanuli district south of Lake Toba (page 40). Batak village headmen there had offered him as much land as he wanted. The plan was to put hundreds of acres under mechanical cultivation to supply vegetables, beef, and pork to Southeast Asia markets.

Except for its sunny beach and sea breezes, Padang's attractions are few. Close behind it, however, rears the mountain range into which twists a delightful highway that mounts to the Padang Highlands.

Through the kindness of Padang's mayor, I found an interpreter companion and off we started in a midget car for Padangpandjang and Bukittinggi (formerly Fort de Kock).

The road twists and squirms through the hills and up Anai River gorge, through which also climbs a cog railway. Luxuriant tropical trees and thick twining vines mantle the steep cliffs. At one bend in the highway a waterfall leaps from a cliff and plunges into a pool so close to the road that it spatters spray on windshields of passing cars.

At Padangpandjang we saw a number of the strange upturned roofs of the Minangkabau homes. Horslike gables rise so high above the middle of the roofs that the ridgepoles look like a broad U.

Moslems Feast Before They Fast

Mosques dot the Highlands, for the Minangkabau people are strict Moslems. Many women dressed in their holiday best walked along the roads, carrying trays balanced on their heads. Brilliant handwoven cloths covered the contents of their head burdens.

"They are taking foods to relatives," said my companion. "Young wives especially go to visit their mothers and mothers-in-law just before our holy month of Ramadan. Our fast month begins day after tomorrow and we do not eat during the day. Feasting and weddings come before or after our holy month."

We found the menfolk enjoying themselves in a different manner. Along the highways we passed scores of them with dogs trotting at their heels. Some carried guns. They were returning from a wild pig hunt; muddy and frayed clothes bore witness to the roughness of the countryside. Sometimes several hundred men of the district go on these pig hunts.

Sheets of Raw Rubber Demonstrate the First Stretch Between Trees and Tires

First the rubber [illegible] with chemicals, [illegible] Here it is dried. [illegible] Tires manufacturing [illegible]

Some 2,000,000 people of Sumatra belong to the Minangkabau tribal clans. They trace their descent through the maternal side of the family, and a young man must marry outside his or his mother's clan.

Through [illegible] pandying we could see a portion of Lake Singkarak, a broad expanse of water behind green hills. A road and a branch of the railway skirt its shores through picturesque Minangkabau villages and extend to the Ombilin Coal Mines 65 miles away.

Monsoon clouds clung to the tops of the mountains, denying us a view of the crest of Singgalang and smoking Marapi, between which the road passes before reaching Bukittinggi [illegible] climb high on rich volcanic [illegible] the valley.

[illegible] were [illegible] the fighting, so I [illegible] along. I finally [illegible] in a family dwelling.

That evening I was introduced to some of [illegible] in a local restaurant. Before I had progressed far in the [illegible] the curiosity of the city's [illegible] had suddenly vanished. [illegible] made tropical moonlight [illegible] my closest. And I earned [illegible].

Next day I roamed the market [illegible] the number of red peppers [illegible] I discovered the variety [illegible] grown in these uplands (page [illegible]

Colorful Crowd Throngs Market Place

[illegible] yellow bananas, purple egg plant [illegible], and big golden carp swimming in the fish tubs [illegible] than the [illegible] and headcloths worn by the women who tend the stalls and spread their wares under sale tilpaper umbrellas in the open market square.

Bukittinggi youngsters were enjoying their

last day of school before the Ramadan holidays by going on a picnic hike along the rim of the Kerbouwengat (Buffalo Gorge), a deep ravine carved in the volcanic earth at the edge of the town (page 38).

Mapwise, Sumatra is almost perfectly balanced across the Equator. The line lies only a few miles north of Bukittinggi, but the condition of the road northward discourages travel.

Years ago when I visited Sumatra I rode by bus from Bukittinggi to Silindja, around Lake Toba and to Medan. This time I had to return to Padang and fly across the island.

It was a clear morning when we took off. Not a cloud covered the mountains, and, as we flew northward, I had a splendid view of the volcanoes.

It was still clear when we crossed straight over the middle of Lake Toba. One can best gain an idea of the geography of the lake from the air. It reminded me of a Pacific atoll in reverse. Instead of being a ring of land surrounded by water, with a central lagoon, Toba is an oval of water surrounded by land, with more land in the middle (page 39).

Though the lake is more than 50 miles long and a third as wide, it probably has a smaller water area than any lake of its size, for in its center rises Samosir Island, itself some 27 miles long and nearly half as wide (page 34).

After reaching Medan, I motored back to Toba to see some of the Batak tribesmen who live in the region.*

Most of the interesting old *kampongs* (villages) of the Bataks have vanished in recent years. But a few of the huge communal long houses still exist. They have tall thatch roofs, uptilted at the ends, and carved wooden gables. Buffalo horns decorate gable peaks of the houses and pavilioned outbuildings.

It was Saturday, market day, when we visited Prapat, on the east shore of Lake Toba. Hundreds of Tobanese thronged into market, afoot, by bus, and by boat (page 33).

Medan, administrative center for eastern Sumatra, is a spick-and-span modern town. Even the Chinese shop signs on many of its buildings fail to give it an Oriental appearance.

The acres of tobacco (page 21) and the oil palm and rubber plantations have made this portion of Sumatra highly prosperous.

Elephant Shoves Truck off Road

Northward from Medan are oil wells. Oilmen searching for new sources in the wild Achin district in the north sometimes find more than just oil.

On the trail one day a truckload of drillers sighted an elephant and stopped. The elephant also sighted them and came up to investigate. Apparently disliking the idea of the truck blocking the road, he began pushing on the front bumper and skidded the heavy vehicle backward.

He then decided upon a new approach. Walking around to the side of the truck, he calmly shoved it off on the roadside and walked on! Fortunately, the car was not overturned. Unharmed, but with nerves a bit shaken, the drillers drove into camp.

Tigers also roam Sumatra's northern bush trails.

Pipe Lines Bring Oil to Palembang

Leaving Medan, I flew southward to Palembang, Sumatra's "oil capital," near the southern end of the island.

Though the west coast of Sumatra is mountainous, its east coast is a low plain, trailing off into mangrove swamps. A fleet of islands lies off the coast, and on Bangka, particularly, are extensive tin mines.

Palembang lies far from the coast, but it seems almost an aquatic town. Part of it stands on stilts along the banks of the broad, muddy Musi River; a sizable portion also floats on its waters (page 37).

Innumerable floating houses are anchored near the banks by poles, so that they rise or fall with the stream but cannot drift away. Small sampans, houseboats, cargo boats, and big barges are legion. Plying up and down stream are ancient stern-wheelers.

Big freighters and oil tankers likewise anchor in the river, for only a short distance outside town are two large refineries, one operated by Standard-Vacuum and the other by Shell. Oil is piped in from wells in the interior.

Both refineries are virtually cities in themselves, for, although many of the workers live in town, hundreds of others live in trim compounds. They have their own shops, markets, recreation centers, and schools.

Palembang, like the Medan district, has oil-palm groves and rubber plantations. While roaming outlying roads, I saw workmen collecting oil-palm seeds and "milking" the rubber trees (page 23).

In my trip through Java, Bali, and Sumatra I found that the "wealth of the Indies" is no obsolete phrase. The new Republic feels that with the reins of government in its own hands Indonesia will continue to prosper.

* See "By Motor Through the East Coast and Batak Highlands of Sumatra" by Melvin A. Hall, NATIONAL GEOGRAPHIC MAGAZINE, January, 1920.

◂ Women Carry Cooking Pots on Heads; Men Stagger under Shoulder Poles

▸ Sarasi's Granite Temple Is Dedicated to the Rice Goddess, But Is Gone

Balinese Sportsman Wi Lighting Cocks for Exercise. Deathdealing Steel Spurs Are Detached

Java: The People Are Moslems but Many Ruins Are Hindu. Temple on a Mountaintop Thousands of Years Old Being Restored

Java Is Often Called the Garden Isle. An Air View Shows the Reason

[illegible]

Terraced Rice Fields, Every Inch Graded, Contour Holes and Ravines

[illegible]

Peddiness Abandoned Jerusbudur in the Jungle Centuries Ago Sir Stamford Raffles Uncovered It The Dutch Restored It

Javanese Dancer Moves with Arms and Hands Gracefully Posed

Baskets and Hats Weigh So Little That Boys Can Carry Big Loads

Central Java's Painted Oxcarts Ramble Along Major Highways

Sassafras Long Dock at Cannon Pit Lake Toba, a Giant Oval Rimmed by Volcanoes

Tidal Lake People Flock to Market in Transport by Bus, Boat, and Foot

Golden Sheaves of Rice Heads Go to the Threshing Mowers

Ankle-deep in Mud and Water, a Sumatran Weeds His Rice

Market in Bipa [illegible] Is a Forest of Celery, Sarrons and Beans Compete in Eye Appeal

[illegible]

Pony Taxis Awaiting Fares Crowd Market Plaza in Bukittinggi

Palembang Boats Resemble Rooftops; Their Scenes Are Daily Painted

Basotho Children Celebrate School's Last Day with a Picnic Spread along a Reserve's Road

Happy Entrepreneurs Tuck Produce Sold About Purchases on Heads and Tote Home Beside Lake Toba

Tuba's Spiraling Terraces Carve Mountains with Giant Trends and Rivers

Ancient Mesopotamia: A Light That Did Not Fail

By E. A. Speiser

Formerly Director of the American School of Oriental Research in Baghdad; Chairman of the Department of Oriental Studies, University of Pennsylvania

MESOPOTAMIA, the historic land between the Tigris and the Euphrates, has meant many different things (map, page 45).

For readers of the Bible, the name—or any one of its synonyms or near synonyms—may conjure up a picture of the Garden of Eden, the Tower of Babel, or the Great Flood; or it may call to mind the story of the patriarchs, of Daniel and Nebuchadnezzar, of the handwriting on the wall.

To some the name has associations with the Code of Hammurabi (page 85), the death of Alexander the Great, the exploits of Harun al-Rashid. Others will think in this connection of Chaldean astrology, the Royal Tombs of Ur, or the fabulous treasures of the Middle East.

Mesopotamia gives tremendous perspective to our modern civilization. In comparison with the rest of the ancient Near East—Egypt, Palestine, Syria, and Iran—Mesopotamia had put in more time on the progress of mankind before the rise of Greece and Rome, than has elapsed between the Homeric age and our own times. When Rome, founded, according to tradition, in the 8th century B. C.,* was less than a hundred years old, Nineveh in Assyria had come to the end of a 4,000-year career.

Yet what Mesopotamia accomplished during several millennia of steady progress did not come to an abrupt close when the Greeks took over.† Through one channel or another, the fruits of that accumulated experience had already spread to Europe, to enrich the classical world and to be passed along eventually to our own culture as a living and tangible force.

Stored-up Evidence

Civilization is basically the sum of man's answers at any given stage to the problems of society and the universe. Until man had begun to live in settled communities, after learning to sow as well as to harvest, there was little real opportunity to do much about such questions.

Ancient urban centers, however, have remains that may be reconstructed into a meaningful record long after the cities themselves ceased to exist.‡

The Near East was the place where the first urban centers emerged. To retrace our present civilization to its roots and see it as a growing organism, we must go back to the Near East, the cradle of Western civilization.

Over much of its total course to date, the story of mankind was but the story of cultural progress along the Nile, the Tigris, the Euphrates, and the immediately adjoining areas (pages 51 and 58). Each of these ancient lands thus has something significant to relate.

If the testimony of Mesopotamia has fewer blurred passages than that of its sisterlands, its clarity is due chiefly to two factors: one, the vast amount and the astonishing variety of written records that have come down to us from that country, a full and eloquent commentary on more than 2,000 years of preclassical history; the other, the number and nature of the ancient Mesopotamian sites.

These sites contribute their share to the cultural illustration of historic times, but are especially valuable as witnesses of cultural progress in the prehistoric age. In other words, the ancient mounds of Mesopotamia have proved to be buried treasures in more ways than one.

How Mounds Grew

Ancient mounds, to be sure, are not restricted to the watersheds of the Tigris and the Euphrates. Mesopotamia, however, exceeds the neighboring lands in the number of artificial hills that go back to the early stages of settled occupation. Since Egypt did not encourage to the same extent the building of cities in successive levels, that country is less well suited than Mesopotamia to take us down, rung by rung, through the centuries that precede written history.

Let us take as an example the site of Tepe Gawra, which is situated 15 miles northeast of modern Mosul and ancient Nineveh (pages

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "The Roman Way," by Edith Hamilton, "Ancient Rome Brought to Life," by Rhys Carpenter, with 32 illus. in color from paintings by H. M. Herget, all November, 1944.

† See, in the NATIONAL GEOGRAPHIC MAGAZINE, "The Greek Way," by Edith Hamilton; "Greece the Birthplace of Science and Free Speech," by Richard Stillwell, with 32 illus. in color from paintings by H. M. Herget, all March, 1944.

‡ See "Archeology, the Mirror of the Ages," by C. Leonard Woolley, NATIONAL GEOGRAPHIC MAGAZINE, August, 1928.

no 64). I use this instance for two reasons. For one, as the discoverer and first excavator of Tepe Gawra I am necessarily better acquainted with it than with any other ancient mound; for another, there probably is not in any case a single illustration that could be used to greater advantage as an index of mankind's gradual emergence from the obscurity of prehistoric times.

As recently as 75 years ago very little was known about the prehistory of Mesopotamia. Inscriptions and monuments had told us a great deal about the Assyrians of the first millennium B. C., the Babylonians of the second millennium, and the Sumerians of the third millennium. When we had worked back, however, to about 4,500 years ago, recorded information all but ceased.

Yet it was perfectly clear that even that remote stage was far from the beginnings of settled occupation. The only trustworthy guide to the farthest and deepest past would be a site consisting of many successive prehistoric levels, to disclose in orderly sequence the gradual progress of man since the beginning of agriculture. Such a site might do for science infinitely more than could thousands of documents and manifolds of objects from periods already known.

In 1926 I had the good fortune to obtain a Guggenheim Fellowship for study in Mesopotamia, coupled with the post of Annual Professor of the American School of Oriental Research in Baghdad. A small grant from the Temple College of Philadelphia left me free to examine hitherto unexplored regions without the usual pressure to bring back something spectacular. With that combined support I devoted six months to an archeological survey of northern Iraq, concentrating chiefly on prehistoric sites.

First Sight of the Great Mound

In April, 1927, when I was covering the area to the north of Mosul, my eye was attracted from a distance by a tall mound which rose some 75 feet above the surrounding plain.

My first thought was that the mound would prove to be an example of Assyrian occupation, if not of later date. But a preliminary examination of the surface remains—broken sherds and fragments of stone implements—promptly disclosed that this was no routine site. Only its upper third bore signs of historic occupation, while the remaining two-thirds appeared to date from prehistoric times.

In other words, unless surface appearances were wholly misleading, we had here a long and hitherto missing record of virtually unknown times, a record piled up at least 50 feet high. The nearby villagers called the place Tepe Gawra, or "The Great Mound," because of its height. But if mere standing should bear out the surface estimate, the world of science would have a much more valid reason for applying that name to the mound.

Systematic excavations were begun in 1927 and carried on through eight separate campaigns, four of which I had the opportunity to direct in person. The final results exceeded our greatest expectations. Tepe Gawra proved to contain 26 individual occupation levels, yet only the upper six of these fell within the historic age (page 50).

Light on Prehistory

The long period prior to the introduction of writing, reaching back to the fourth millennium B. C. and beyond, was no longer obscure; for it was now illuminated by a full score of successive settlements, one on top of the other. The continuous account of early man could be pushed back by perhaps 20 centuries.

The unfolding picture yielded a pattern of steady advance in pottery and in architecture, in religion (page 50) and society, in work and in play. Other sites of comparable age have since been uncovered, each adding something that the others lacked, each helping to place some new detail in sharper relief.

Why did the ancient Near Easterners in general, and Mesopotamians in particular, continue to build on man-made hills when space—except in Egypt only—was certainly not at a premium? The reasons are simple. The first settlers would choose a site which had a good water supply, and whose location was convenient for agricultural and commercial needs. The initial advantages of environment remained attractive after the first town had been destroyed—by fire, floods, or war.

To level a place built of sun-baked bricks was not a great problem; the upper sections of walls still standing might have to be torn down and some earth might need to be added to fill the openings that the fallen debris had not covered up. In this process a few feet of the old occupation were sealed up and the next settlement was that much higher above ground level.

But the main reason for continuing on the old site was not quite the case with which this could be done. More important was the desire to follow, wherever possible, the outlines of the old buildings, particularly temples, in order to earn the protection of the gods and spirits that the previous town had propitiated (page 47).

Here is tradition at work from the ground, so to speak. As occupation followed upon occupation, the site grew not only in height

Surgeon [illegible] Wrought Walls Stand for Assyria: Dust of Centuries

[illegible]

not also in prestige and defensibility. With this growth there came also a proportionate rise in the influence of tradition upon each successive occupant.

Small wonder, therefore, that a storied site like Tepe Gawra was not finally abandoned to the oblivion of time and the eventual excavations of archeology until its summit had become too small and inaccessible for all practical purposes.

Nearly 5,000 Years of Pioneer Work

[illegible] of Mesopotamia [illegible] length of the [illegible] than two and a half millennia of historic progress. The scene shifts [illegible] there [illegible] wilderness [illegible] many tongues and religions, some of whom will be discussed later. A Tower of Babel transposed from parable to fact.

It is indeed this storied background as much as anything else that helped to make the resulting civilization a cosmopolitan and lasting factor, in contrast to provincial achievements of brief duration. But because progress can be traced only against the background of time, a rough chronological outline must be provided and the principal characters identified.

A few of the [illegible] are given in the brief [illegible] that follows. [illegible] in a logical order, the [illegible] a short but comprehensive [illegible] of cultural progress as well as a definite time sequence.

The [illegible] 5000 B. C. [illegible] are not available [illegible] absolute dating [illegible] written records. [illegible] was the period in which [illegible] was [illegible].

[illegible] of the Stone Age [illegible] the

many centuries in which copper was used sparingly with stone, but real metallurgy had not as yet been introduced.

In other words, the first phase in the career of Mesopotamia takes in the last Neolithic settlements and the whole of the Chalcolithic, or Copper-Stone, period.

That this was not, however, a primitive phase is clear from numerous facts. We find here several distinctive and individual cultures, each of which has perfected its own special type of painted pottery and maintains lively relations with the neighboring cultures, the combined territory involving a considerable portion of western Asia.

The advance is recorded plainly, in material remains if not in actual words, in the successive occupations which the mounds of Mesopotamia have preserved, layer upon layer, for our own age to decode.

The number of such prehistoric levels varies from site to site. In each instance there may be a time lag of varying duration between two given strata. Nevertheless, we have seen that some sites may contain as many as a score of successive prehistoric settlements. The total length of this phase cannot have been less than 2,000 years.

The Third Millennium

The historic age is ushered in by the two revolutionary factors of metallurgy and writing. The first of these, which had begun well back in prehistoric times, brought a profound change in the concept of space; it stimulated geographic exploration by forcing man to look for new and ever more distant sources of the precious metal (page 64). The other, and in time specifically Mesopotamian development, revolutionized the existing idea of time by forging indestructible links between the past and the present and between the present and the future (page 66). History can now embrace faraway lands and ages.

The principal actors now come to be known by name as well as by deed. In Lower Mesopotamia, the region at the head of the Persian Gulf—which at that time reached much farther up the valley than it does now—the dominant ethnic group used the Sumerian language and called its land Sumer (Biblical Shinar; Genesis 10:10).

Although this language has disclosed the secrets of its structure to the patient efforts of modern scholarship, no relative of it, either ancient or modern, has yet been discovered. Its users were evidently a people apart, in an ethnic no less than in a linguistic sense; we shall see presently that they were also highly distinctive in culture.

The most plausible way to explain this situation and account for the absence of kindred elements is by assuming that the Sumerians had come a considerable distance, having left their immediate relatives somewhere in farther Asia. Be that as it may, the particular gifts and aptitudes of the Sumerians blended so well with the other cultures of Mesopotamia that the resulting product was to have a decisive bearing on the evolution of civilization in general.

The eastern neighbor of Sumer was the Iranian land of Elam. To the north dwelt numerous mountain peoples who appear to have been akin to the Elamites (Genesis 10:22). Adjoining Sumer in a westerly semicircle were the Semites; their contacts with the Sumerians were to become ever more close and intimate.

The earliest representatives of the Semitic family of peoples are known in Mesopotamia collectively as the Akkadians (Genesis 10:10). Later on they come to be distinguished in the south as the Babylonians, in the northwest as the Assyrians, and in the west as the Amorites.

The greater part of the third millennium was under the political and cultural domination of the Sumerians. It consists of the brilliant Early Dynastic period. This phase is featured by written and material illustrations from Ur (of the Chaldees),* Lagash, Uruk (Biblical Erech; Genesis 10:10), Khafaje (the ancient name of this site is in doubt), and Eshnunna, among others (pages 68, 70 and 72).

Following this long phase of Sumerian ascendancy came the first period of established Semitic supremacy, under the vigorous dynasty founded by Sargon of Akkad. Sumerian and Semite might contend interminably with each other for political leadership in the land, but the prevailing culture was very much of a joint effort.

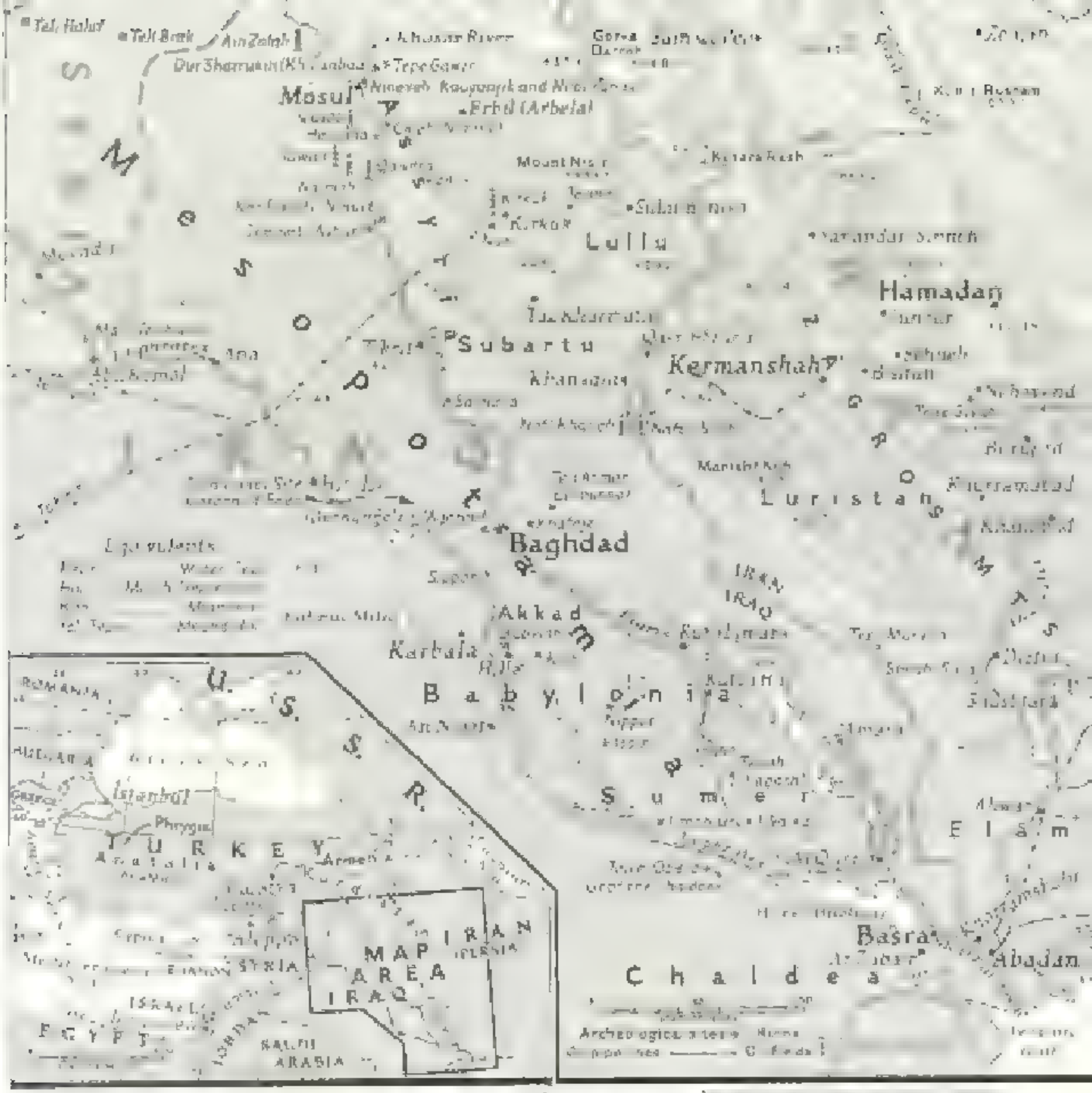
Toward the end of the millennium there was a brief resurgence of Sumerian dominance, under Gudea of Lagash (page 75) and the founders of the Third Dynasty of Ur.

This last assertion of Sumerian political power is known as the Neo-Sumerian period. The people responsible for it soon disappeared as a distinctive ethnic element.

The Second Millennium

The culture of which the Sumerians had been the prime catalysts spread, however, to more and more distant reaches. Their lan-

* See "New Light on Ancient Ur," by M. E. L. Mallowan, NATIONAL GEOGRAPHIC MAGAZINE, January, 1956.



Area pertinent to the Beginnings of Writing, the Cradle of Civilization

[illegible] Jarmo, earliest known village in the [illegible] settlements each built upon the [illegible]

[illegible] and [illegible] did the Latin of the Middle Ages [illegible] three millennia later.

[illegible] powerful impact of written and oral tradition, the civilization of [illegible] In [illegible] and [illegible] of the [illegible] where [illegible] and [illegible] the [illegible] especially under that dynasty [illegible] Hammurabi (page 85).*

In the north, the city of Ashur gradually rose to prominence (page 90). The state which that city founded, Assyria, was to grow in the course of the succeeding centuries and unlike the Roman state of a much later age, into a great world empire.

[illegible]

* See [illegible] "Babylonian Records in the Library of J. Pierpont Morgan," by Albert T. Clay, both [illegible] February, 1920.

A Forgotten Race Built a Village Citadel on This Hilltop Some 5,000 Years Ago

"Jonah's" Tomb at Nineveh Still Shows Other Assyrian Remains Beneath

[illegible]

E. A. Hoyer

Ceremonial Wrestlers, Jars on Heads, Struggle in Bronze

[illegible] work of [illegible] in ancient Mesopotamia were depicted on monuments dating from the first half of the third millennium B. C. Battles between heroes and demons were often portrayed. One wrestler boasts about the great strength and has one-time opponent, Enkidu, who later became the hero's inseparable companion. This bronze cast came from an Early Dynastic level at Khafaje, east of Baghdad. Archaeologists do not know why jars were balanced on heads [illegible]

Babylon was conquered by the Kassites (page 87), a people whose home lay in the Iranian highlands. Their victory had been all but assured by the earlier crashing raid of the hordes of the Hittites (Genesis 15 [illegible]), a people of Indo-European stock settled in Asia Minor.

The paralyzing effect of these twin blows did not wear off fully until some 400 years later, in the 12th century B. C., when Babylonia was at last restored to native rule. Ashur, on the other hand, found itself under the influence of the Hurrians, the Horites of the Old Testament (Genesis 14 6)—a people from the region of Armenia (page [illegible]).

By the middle of the second millennium the exceptionally active group had made its presence felt all the way from the borders of Egypt to the foothills of Iran, leaving substantial traces of its influence in the form of cultural elements. In Palestine, Syria, Asia Minor, Assyria, and the districts to the north of Babylonia. Much of what they contributed was merely a new version of old traditions, which the Hurrians had acquired from the Sumerians or Akkadians in the third millennium. The Mesopotamian civilization was now active on a broad front, in the manner of a chain reaction, propagated by collateral as well as by lineal descendants.

The Concluding Phase

But the political power of the Hurrians was not equal to their culture. Assyria, at all events, managed to recuperate itself as early as the 14th century. Thereafter, this vigorous

remained just as resentful for psychological reasons. Before the second millennium was [illegible], however, both Babylon and Ashur seem to be subjected for long stretches of time to foreign rule.

In each instance the conquerors were outsiders; they had no family connections either with the Sumerians or the Semites. Their cases were similar, however, in two respects. Both conquering groups were attracted by the civilization that had evolved and matured in the fertile valley; and both descended from the same long chain of mountains which form the northerly boundaries of Mesopotamia.

[illegible] based on the middle Tigris experienced a long period of steady growth and expansion, which was not checked for nearly 500 years.

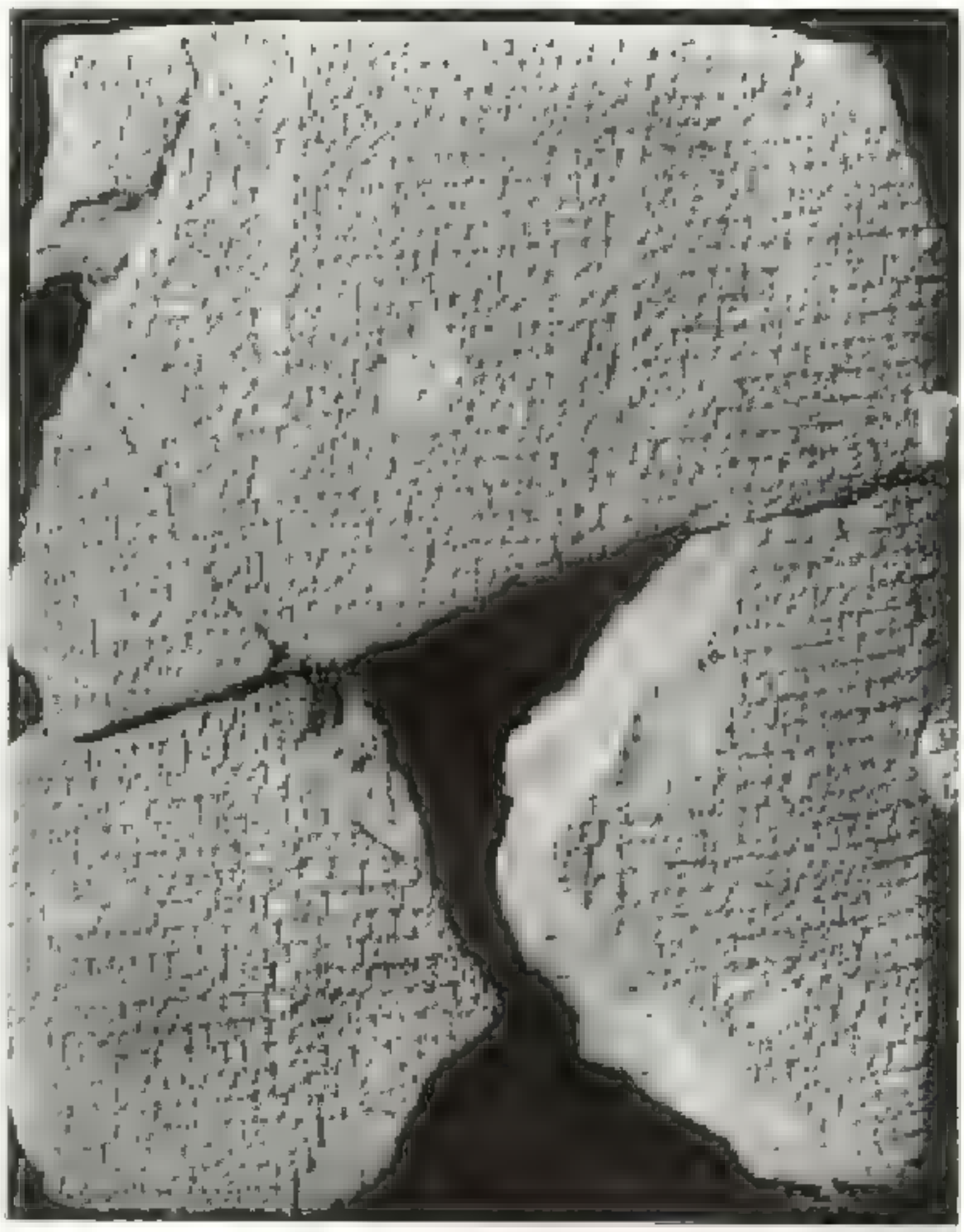
[illegible] B.C. sees first one and then the other branch of the Mesopotamian family attaining a [illegible] of power never hitherto equaled, only to be followed in rapid order by a decisive and permanent [illegible]

[illegible] expansion in the middle of the 7th century B.C., when the Assyrians established themselves in Egypt, the cultural rival of Mesopotamia since remote prehistoric times. It was however, [illegible] final overexpansion [illegible] the combined assault of the Medes and the Babylonians in 612 B.C. [illegible]

The last king of Assyria was old enough to remember himself in a western province [illegible] half dozen years longer. In 606 B.C. the night that had been Nineveh was extinguished for all time.

Babylon [illegible] for a few decades on [illegible] Under Nebuchadnezzar II [illegible] the outward signs of the [illegible] city which indeed it was [illegible] golden age of Hammurabi [illegible] returned with modern [illegible] but just as that age had been [illegible] decades away from alien domination, so now the reign of Nebuchadnezzar the last but one under a native ruler of Babylon.

Once again the new awakening stemmed from Iran. This time, however, the virtues were neither Kassites nor Medes. The conqueror in 539 B.C. was Cyrus the Great, [illegible] the [illegible] Persians.



The Heroic Epic of Gilgamesh Is Written in Clay

[illegible] Tablet [illegible]

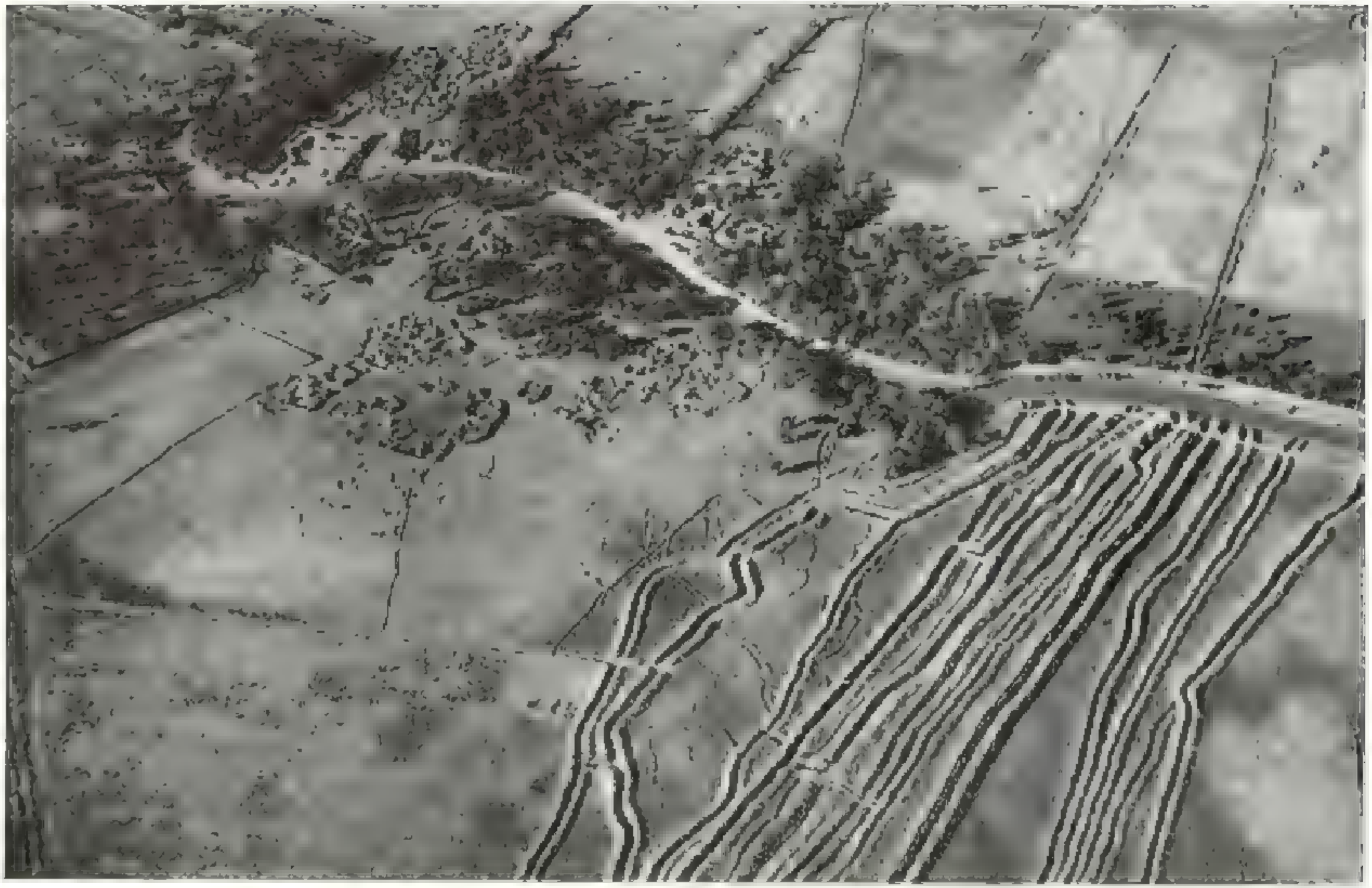
Ironically enough, the strength of the Persians, like that of the Medes and the Kassites before them, flowed in large measure from the pervasive cultural influence that Mesopotamia had been exerting on its neighbors ever since the third millennium.

The Persian conquest did not in itself bring an end to the cultural [illegible] Mesopotamia. Two centuries later Alexander [illegible] was [illegible] but [illegible] the world [illegible] to pay a lasting tribute to the [illegible] throughout the civilized world.

[illegible]

Excavators Reach a Point More than Half-way Down Tepe Gawra's 3,000 Years

[illegible]



Southern Mesopotamia as in Antiquity, Is an Immense Network of Irrigation Canals Fed by the Euphrates River

[illegible]

A Lonely Dog Left His Signature Beside That of a Powerful Assyrian Emperor

[illegible] Mesopotamia [illegible] his capital, has yielded many impressive sculptures and wall paintings (pages 43 and 98). It also contained many small inscriptions. One of these has an added, unique touch. Before the clay was dried and baked some 2,670 years ago, a stray dog trod upon it, leaving his paw prints.

The death of Alexander the Great in Babylon wrote an end, at long last, not only to that city's hopes and ambitions but also to the individual existence of the country and to its age-old independent culture. Mesopotamia, as such, ceased to be.

Its inner vitality, however, was far from spent. Sundry elements of the civilization that had grown up in Mesopotamia continued to live on and blend with other notable achievements of mankind, under Hellenism and its successors. And thus they survive to our own day, in common with other Mesopotamian contributions that had found their way in the meantime to Palestine and Asia Minor, and thence had entered the main stream of western civilization.

A Way of Life Endures

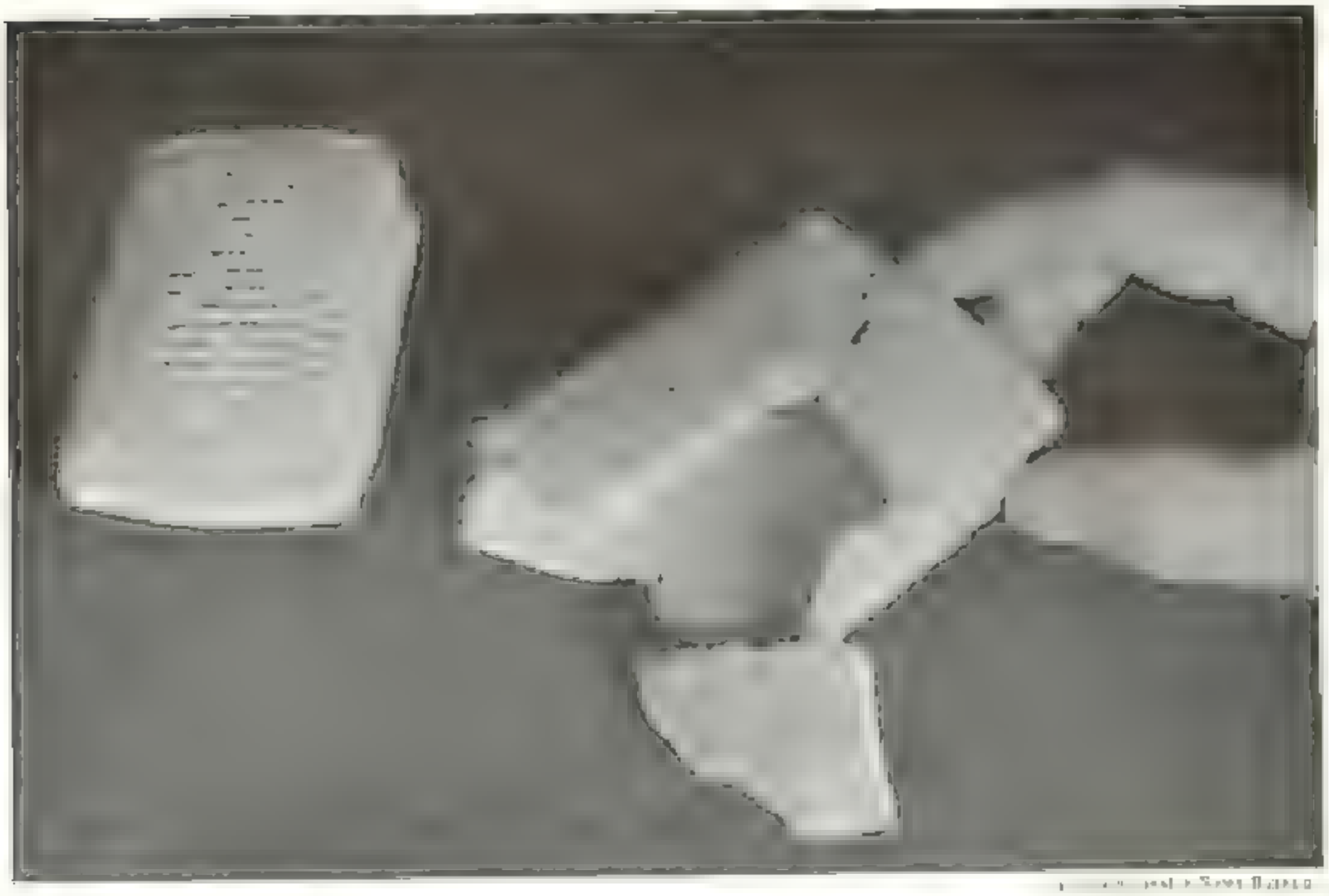
What then are the enduring cultural values that make of Mesopotamian civilization a light that did not fail with the collapse of the political structure? A full list would take us too far afield. Nor is an exhaustive tally needed. For nearly all of the region's achievements that time has been unable to obliterate are grouped into a harmonious pattern which adds up to the Mesopotamian way of life. Once that pattern has been outlined, the main details will fall readily into place.

If civilization is largely a way of fixing man's place in Nature and society, how did the ancient Mesopotamians make these all important adjustments? Very briefly, Nature was to the thoughtful inhabitant of the Tigris-Euphrates Valley a combination of capricious and violent forces, each personified by one or more gods.

The gods' motions were unpredictable; hence life on earth was ever restless and uncertain. Man must be everlastingly at pains to please and appease the gods, so as to influence his own fate for the better.

This requirement applied to the mightiest king no less than to his lowliest subject. The king was no supernatural being, as in Egypt, but a mortal, abject in his submission to the powers of Nature. To this extent, at least, all men were equal.

The place of society in Nature becomes ultimately a matter of the rights and responsibilities of the individual—any individual. Here we have the essentials on which democracy is founded.



Lettered Clay Sheaths Ensured the Safety of Important Clay Documents

[illegible] 661. The inscribed [illegible] envelope, protecting and identifying the enclosure, usually was labeled to an [illegible]

[illegible] that a rudimentary form of democracy was the keystone of the Mesopotamian [illegible] is abundantly clear from countless details involving government, religion, law, literature, and art. Since the king was just as fallible as the next mortal, he must [illegible] the balance between Nature and [illegible]

A person in authority could lose [illegible] a fatal misstep in a major undertaking [illegible] advice and approval of other [illegible] men. The necessary powers [illegible] in a constituted assembly, [illegible] effective check against autocracy.

[illegible] seem to be [illegible] an integral part of the Mesopotamian way of life, so much so that even the gods were subject [illegible] and [illegible] democracy.

[illegible] dignity and security. [illegible] Pharaoh was a god and absolute master of all he surveyed, the individual technically could call nothing his own. In Mesopotamia it was the natural thing for a ruler to pay the current price for anything he wished to acquire.

All things considered, the Egyptian way led to a sense of resignation; in Mesopotamia [illegible] assiduously pointed a way to hope.

[illegible] can best be judged by its broad appeal to [illegible] It was viewed as the essence of civilized life. Because it was effective, it was an influence for general progress in fields of human endeavor not directly connected with government and society; particularly so in literature and the natural sciences.

The Key Position of Writing

The common denominator in all these incidental advances was writing. The [illegible] progress on a broad front, making life fuller [illegible] were often able to make further contributions [illegible]

[illegible] inhabitants of Mesopotamia [illegible] the historical [illegible] the Sumerians.

Sumerian culture, itself a composite product, gradually develops into a comprehensive civilization embracing the whole of Mesopotamia. The basic social, intellectual, and material attainments of that broader civilization appear eventually as the common property of the larger section of western Asia known as the Fertile Crescent.

They spread also to other adjoining areas, and in course of time crossed over to Europe. Like bread cast upon the waters, they proved amply rewarding, in that Mesopotamian civilization lived on after the mother country had fallen under foreign domination. By then the foreign conquerors had become in many ways the disciples and the zealous guardians of the Mesopotamian way of life.

It remains only to show how the separate cultural elements relate to one another as parts of a harmonious and living pattern. If the entire system got its start from the local concept of the individual in relation to society and of society in relation to Nature, it was writing but emerged first as that system's most notable by-product, and later as its very nerve center.

The strongly developed sense of private property which characterized the Sumerians led them to identify their possessions—notably those that were presented to the gods as offerings—by means of personal markers engraved on their cylinder seals. The seals were rolled out on soft clay and the impressions could then be attached to the given object as labels (page 60).

Similar identifying markers were used for temples and cities. As such they were more than just pictures to be seen; they were at the same time names to be pronounced. From proper names the notation extended to objects of importance to contemporary economy, finally to words in general.

At the same time, means were devised to express not only entire words but also component syllables, the development proceeding from the concrete to the abstract. It was a decisive step forward; for it marked a genuine creation from mere word painting, a step, incidentally, made possible largely by the peculiar characteristics of the Sumerian language. Thus we soon have a flexible medium for recording speech and thought.

It is tempting, but vain, to speculate on how much longer man might have taken to discover writing without the favorable background of the Sumerian social system and of the Sumerian language. The fact is that the earliest Sumerian written records are also the oldest forms of actual writing from anywhere. Moreover, the complicated process, from concrete symbol to abstract syllable, takes place, step by step, before our very eyes, as it were.

The possibility that the entire procedure was repeated independently elsewhere is extremely remote. It is true that Egypt constitutes the other great cultural center whose antiquity is comparable to that of Mesopotamia. We know, however, that Egyptian writing appears after the Sumerians had perfected their medium, and that it is full-grown virtually from the moment of its appearance. The preliminary experimental stage is lacking.

Since Egypt and Mesopotamia are known to have maintained close cultural contacts with each other in the centuries prior to the advent of writing, particularly so after the coming of copper, the means were there for the idea of writing to be readily communicated from one to the other. For all these reasons many scholars are now agreed that Egypt took over the basic idea from Mesopotamia, but employed its own specific symbols to put that idea into effect.

Achievements of this magnitude are difficult and rare. Even though the basic problems had been overcome, it required more than 1,000 years before the next great stride was taken—this time from syllabic to alphabetic writing.

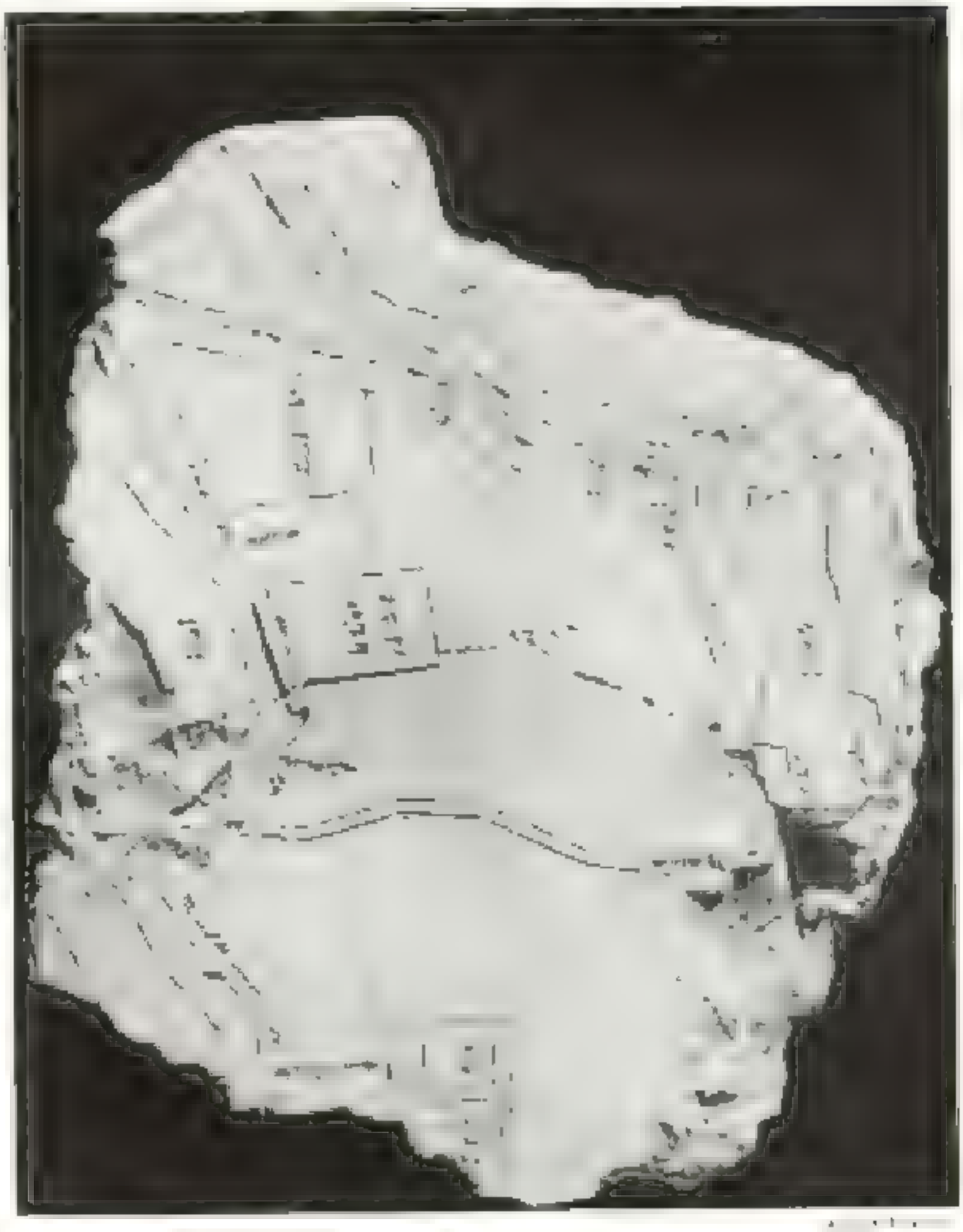
That secondary discovery, which was to prove of inestimable value to all mankind, was likewise the contribution of the Near East, worked out somewhere along the eastern shores of the Mediterranean.* This achievement would not have been possible, however, without the underlying labors of the early Mesopotamians.

Mesopotamian Words Still in Use

Writing by means of separate signs for words or syllables is a complex procedure. It calls for a key if it is to be used with speed and precision. Since [illegible] on models found in daily life, the key takes the form of lists of things and beings systematically catalogued.

Even the earlier Sumerian documents contain lists of birds, fishes, domestic animals, plants, implements, and the like—all intended as aids to writing and reading. Such groupings imply careful observation and organization. They are in fact the first steps in a scientific approach to zoology, botany, mineralogy, and so on.

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "Secrets from Syrian Hills," July, 1953, and "New Alphabet of the Ancients Is Unearthed," October, 1953, both by Claude F. A. Schaeffer.



Builders of Ancient Nippur Had a Clay Blueprint to Guide Them

[illegible] was the religious and scientific center of ancient Bal[illegible]

Beast and Donkey Have Complemented Each Other since Prehistoric Times

The immortal tale of Gilgamesh (pages 49 and 77) appears by the middle of the second millennium in as many as four different languages—Hittite and Hurrian, in addition to Akkadian and Sumerian.

It has been pointed out frequently that the Odyssey has various points of contact with this great literary achievement of Mesopotamia. And even though Homer stood in no need of outside assistance, the literary form which he employed was originated in Sumer. The legend of Cronus and Cronus is traceable through Hurrian channels, to a Babylonian source.

The influence of Mesopotamia on the Old Testament cannot be indicated within the limits of a brief article. It was inevitable, for the simple reason that the patriarchs came originally from the Euphrates Valley and were thus automatically inheritors of Mesopotamian civilization. Viewed in this light, the supreme place of the law in the Bible assumes added significance.

When the Bible uses the incident of Egyptian bondage as a recurring refrain, it would seem to allude to much more than the relatively brief period of Egyptian oppression. Rather it appears to stress the fact that the Egyptian way was abhorrent, incompatible with its own way and hence also with that of Mesopotamia.

The ideals that have sustained mankind to this day are in many ways the same ideals that were tested and refined in the magnificent laboratory which Mesopotamia maintained during the thousands of years of its historic progress. In a final survey, therefore, it will not be the sundry survivals of that civilization which call for our close attention.

Not the wheel and the true arch, the razors and cosmetic sets and frying pans; neither will it be shepherd's pipes or the princely harps, nor yet the dials on our clocks, or the astronomical charts that constitute our greatest debt to Mesopotamia.

What really vital are law and writing, and beyond these the abiding sense of the rights and obligations of the individual in a changing and dramatic world—pointing a way to hope in man's struggle for civilization. We are only beginning to appreciate the role of Mesopotamia in this epic struggle.*

How the Herget Paintings Were Composed

IN efforts to present, in collaboration with the artist, the basic features of a great civilization of antiquity, the archeologist dealing with Mesopotamia is less favored by circumstances than were his colleagues representing Egypt, Greece, and Rome.

We know that the artists and artisans of Mesopotamia were no less accomplished than their contemporaries in the Nile Valley. Climate and soil, however, combined to preserve the products of the one center and to destroy those of the other. In Mesopotamia woodwork and textiles simply disintegrated and wall paintings did not fare much better.

Fortunately the cylinder seals from Mesopotamia are a source of information that is practically inexhaustible. Sculptures in the round, and more especially the vast number of reliefs in stone and bronze (pages 43 and 48), contribute their share of vivid and vigorous representations.

Within the last two decades chance and the refinements of archeological methods have preserved for us several important examples of local frescoes—at Tell Barsip and Mari, Khorsabad and Nuzi, Ur Kurigalzu, and Qsair on the Arabian coast of the Persian Gulf—so that we are no longer tethered to guesswork when it comes to the question of color or on anything other than pottery.

In the following paintings by H. M. Herget the facts about a complex civilization that lasted several thousand years, including nearly three millennia of historic progress, have been compressed into 24 subjects arranged in chronological sequence from remote prehistoric times down to the middle of the first millennium B. C.

Each picture stands for a whole age, or for a significant phase of the given age. The episodes, based on fact or on imagination, may be descriptive of a moment in history or of a whole era.

The archeologist has invented no incident if the texts did not furnish him with something better and stranger than fiction; but he has sought to be true to the spirit of the times. Details rest on a solid foundation.

This need for highlighting a composite and dynamic civilization by breathing life into each individual painting, imposed an added strain on the artist. Mr. Herget's experience and interest proved to be a unique combination. He faced the problem, delighting in its challenge. It is a source of deep regret that he did not live to see his last major project published.

* For a fifteen articles on Mesopotamia, see "A-

Fourth Millennium B. C. "He Created the Grass, the Growth of the Marshes, the Reeds, and the Forest . . . A Swamp He Made into Dry Land"—Fridu Creation Story

Man Helps Build Southern Mesopotamia

"No shrub of the field was yet in the earth, and no herb of the field had yet sprung up" (Genesis 2:5).

This sentence might well apply to southern Mesopotamia—the traditional region of the Garden of Eden—at a time when the surrounding areas had already been long established. The land here had to be built up slowly, by the silt brought down from the mountains of Armenia by tireless rivers. And man had to do his share in making the ground firm.

Northern Mesopotamia is hilly and old, the south is flat and relatively recent. Lower Mesopotamia owes its very ground to the unceasing labors of the Tigris and the Euphrates. Their silt is constantly adding to the land surface and cutting down the water area at the head of the Persian Gulf.

What had been seaports even in comparatively late prehistoric times are now modern towns or ancient sites lying hundreds of miles inland.

The first settlers arrived in Lower Mesopotamia from neighboring and long-established lands.

They were real pioneers, working with the reeds that grew from the marsh bottom and matting them into a cover over the slime. The land which they helped to form with their own hands was new, but their civilization was old and mature. What they achieved in the course of the first few centuries was a blend of the old and the new, a blend of discoveries and experience imported from neighboring centers but adjusted to the new surroundings and materials.

It was on this truly flimsy foundation that a new civilization was to emerge in course of time, one which was to develop into a dynamic force crossing barriers of language, race, and political boundaries, and becoming in many important respects the cradle of modern civilization.

While Lower Mesopotamia was gradually drying out, there developed in the highlands to the north and northeast three distinctive cultures, each of which was typified by a particular kind of painted pottery. The latest of these three painted pottery cultures is often called El Obeid (page 65), after a small site near Ur.

All three phases were well acquainted with animal husbandry and enjoyed well-developed forms of agriculture, architecture, and religion. Their pottery served primarily a variety of domestic uses, but the best pieces were reserved for ceremonial and religious purposes.

The pottery soon develops local characteristics and acquires the features which are sampled on this plate. The same is true of the architecture. Alongside the temples which are known to us from the north there develops also a special local style which features the reed as the basic building material.

A bundle of reeds tied near the top yields the graceful curves which come to be associated with the mother goddess, since art, architecture, and religion are already in intimate association.

The plate seeks to compress several centuries of development into a single scene. The men in the painting are stamping down the ground and laying mats over the slowly drying marsh. A patch previously wrested from the marshes already bears the cult hut whose goddess will be implored to protect man and beast as she receives offerings from the treasured pottery vessels assembled for the purpose.

Fourth Millennium B.C. "The City Was Ancient, and So Were the Gods Within It"—Epic of Gilgamesh

This Northern Acropolis Was Buried Under 12 Settlements

W[illegible] had been climbing steadily up the ladder of prel[illegible] which [illegible] Since then, however, excavations [illegible] of [illegible] Nineveh—modern Mosul—have [illegible] in our knowledge of the past.

Perhaps the single site which has told us [illegible] Gawra, [illegible] excavated by the author in 1927. Subsequent [illegible] largely under the author's personal supervision, have [illegible]

[illegible] marked on the National Geographic Society's Map of Bible Lands. This plate and the [illegible] are based on the work at Tepe Gawra.

[illegible] of the Copper Age proper.

[illegible] with stone lasted perhaps 2,000 years, down to about 3000 [illegible] as a magic link between the individual and the powers of Nature.

All of this stage was experienced in the north of Meso[illegible] fruits of this progress only toward the end of the period. [illegible] of the Stone-set upper Age was religion. The principal buildings in most of the levels of Tepe Gawra were the temples.

[illegible] witnesses many successive occupations, layer upon layer. With each new stratum the area at the top became more and more restricted, until at last it would no longer support any kind of structure worthy of the site's tradition.

By 1500 B. C. the place had to be abandoned, and within a century or two it [illegible] cone-shaped [illegible] the three temples. [illegible] XI 1 after the site had already [illegible]

[illegible] rated with white plaster, and the [illegible] a special and exclusive size, but all three employed piers and [illegible] cated appeal.

[illegible] stride which [illegible] had made since his emergence from the security of the Stone Age.

Fifth-Fourth Millennium B.C. "The Labor of Hands Brought Sight to Every Craftsman"—Indicating Inscription of Sumerians

Prehistoric Men Had Much to Occupy Him

[illegible] found together in any single [illegible] that [illegible]

At Tepe Gawra, however, the [illegible] represented by as many as 20 individual levels and a similar time [illegible]

[illegible] the pottery, for instance, belongs to Gawra XX [illegible] from the top) and below: the arched [illegible] band, is a product of Gawra VIII, or very [illegible] beginning of [illegible] period.

The painted pottery of prehistoric Gawra falls into two main groups; the earlier of these bears the name of Halaf and the later of El Obeid, a relative of the earliest pottery [illegible] Sumer. The Halaf pottery [illegible] for its [illegible] and especially for its extraordinarily intricate decoration in more than one color. The El Obeid pottery from Gawra is [illegible] with naturalistic designs—plants, birds, animals, and even [illegible].

The potter by then had discovered the closed kiln, which [illegible] temperature. [illegible] and [illegible] with [illegible]

[illegible] too hot to be [illegible]

Next to the [illegible], however, we could [illegible] efforts in translucent alabaster, such as the spouted bowl [illegible] depicted here beside the pottery. When it is borne in mind [illegible] that the whole bowl had to be ground, spout and all, out of a single core, and that many a piece must have been carried along to the last stage only to collapse under the finishing touches, the work of these nameless artists of some 5,000 years ago will stand out as incredible.

The barber used straight razor handles made of slate and [illegible] with [illegible] dates [illegible] the other [illegible] [illegible] were [illegible] and [illegible] to Sargon.

The playing pipes were made of bone. They occur as early as Gawra XII. One of the best preserved specimens [illegible] permanent.

Gawra VIII produced the first known example of a true [illegible] in [illegible] of a [illegible] different [illegible] of Gawra XIII (page 60), but no less impressive.

[illegible] Gawra XIII. But who these newcomers were, and who their predecessors may have been, will probably never be known. It is true of the prehistoric peoples more than of any other that only by their works shall they be known.

Pad of Dwarfs Mid-summer [illegible] "The Steadfast House the Pickax Builds . . . the Steadfast House It Causes to Prosper" — Sumerian Myth about the Creation of the Pickax

The Introduction of Copper Tools in a New Era

[illegible] the metal was used sparingly and, what is far more [illegible] fast, was treated in much the same way as stone.

The real age of copper could not set in until the discovery of the basic principle of metallurgy, that by smelting the ore [illegible] could make the metal pliable and cast it into any desired shape. Only then could the flexibility of the material be fully utilized and a variety of shapes achieved that could never be forced out of the resistant stone.

[illegible] responsible for a revolution in the life of the ancients that remained without parallel until the advent of the Steam Age. In industry and in warfare, the users of stone could not [illegible] the new technique became literally a matter of life and death.

[illegible]

Level VII of Tepe Gawra, which represents the last [illegible] copper objects, had the rich brown color of the earth in which these objects were embedded. But Gawra VI, the first [illegible] above Level VII, was literally green with the patina of copper.

In the south of Mesopotamia the smelting of copper was [illegible] that a new element had been added to the population. In the early historic period the resulting [illegible] cylinder for the stamp seal, and the like—come to be asso[illegible]

[illegible] arrived in the country in the latter part of the prehistoric period, after painted pottery had given way to undecorated [illegible] be out of order to go a step further and identify the Sumerians with the group that introduced metallurgy into Mesopotamia.

In this they might be compared to the Biblical Philistines [illegible]

This composition reflects the view that the Sumerians brought the new technique to the country. A group of them have arrived on boats, landing near one of the settlements which were to become [illegible] and towns later on. Their larger vessels are tied up alongside the circular boat [illegible]

The headman of the village examines an ax, while his wife [illegible] mother with a child on her shoulders. A boy looks wistfully at the shining objects on the ground, whose excellence is brought into relief by the few stone pieces lying around. The Sumerian boy holds ancestors of our modern dice.

How Seal Engraving Led to the Invention of Writing

O[illegible] progress of mankind no other era compare in fur[illegible] that literally made history, for no true history is poss[illegible]

[illegible]

Other peoples, near and far, soon came to appreciate and put to use the fruits of this discovery; and systematic progress in various sciences, particularly in language and in the [illegible]

[illegible] of private property, which was particularly characteristic of the Sumerians, and with it their use of the cylinder seal to [illegible]

[illegible] can, in fact, be gauged by the appearance of the cylinder in [illegible]

[illegible] length to conquerors from the east, in the first millennium B. C., the stamp seal came back with the invaders. By that [illegible] also serve the same purpose when impressed on clay tablets. Once that transition had been made, the rest was largely a [illegible]

[illegible] the cylinder seal and the beginnings of writing. The scene [illegible] inasmuch as it is this site that has provided us with the earliest known forms of pictorial writing. The time is that of [illegible]

[illegible] young apprentice has been rolling out on clay some of the seals already finished. To point up the details the seals [illegible]

Near by is seated another seal cutter working with a stylus on clay. The stylus he is using is designated for the [illegible] of the Assyrian period, the stylus was not held between the [illegible] is holding the fishes just delivered.

End of Fourth Millennium B.C. "The Art of Writing Is the Mother of Orators and the Father of Artists" Sumer in Proverb

The Temple Courtyard Was the Scene of Varied Pursuits

[illegible] prehistoric age in Mesopotamia. It did not require [illegible] the state. Side by side with this development came an [illegible]

By the beginning of the third millennium B. C. the land emerges into the full glare of history. No longer are we [illegible]

The principal [illegible] are now plainly identified. We [illegible] their families; we are able to follow their successes and their setbacks, their problems, [illegible]

[illegible] the second half of the third millennium. In the south, which [illegible] prominent cities such as Ur and Uruk, Lagash and Umma, [illegible]

[illegible] sum of the many scattered reports emphasizes that the economic and social life of the period centered about the temple.

[illegible] than one type of temple. The one closest for illustration here has been recovered from the oblivion of nearly 5 000 years by the excavations of the Oriental Institute of the University of Chicago conducted at Khafaje, some 10 miles to the east of Baghdad.

The general [illegible] of the everyday life of the times on the upper platform [illegible]

[illegible]

The typical [illegible] varied in length according to the owner's prosperity and station in life. The upper part of the body was often left bare. Women's skirts appear to be less elaborate in cut but more varied in color than those of the men.

Except for the days given over to stated major festivals, [illegible] could be the scene of considerable gaiety and social pastimes. [illegible]

Wrestling and boxing were recognized forms of skill, but [illegible] in one of the great epics of Mesopotamia (page 74).

Early Third Millennium B.C. "Cows and Calves He Caused to Multiply, Much Fat and Milk He Caused to Be Produced"
From a Stamper in Mari about the Farmer-God

"Modernized Warfare" Was Known 45 Centuries Ago

ONE OF THE best known centers of Early Dy[illegible] (3rd millennium B.C.) is the city of Lagash, [illegible] Tellah. Excavated by the French in the [illegible] archeological campaigns, Lagash has revealed [illegible] antiquity to our own [illegible] remains as well as the elegance [illegible] left us by [illegible]

[illegible] even to make [illegible]

[illegible] and material remains [illegible] has utilized not only the [illegible] objects from Lagash itself but [illegible] finds from Ur.

[illegible] the [illegible] of Lagash [illegible] Vulture [illegible]

[illegible] partly on the finds [illegible] The city emblem of [illegible] standing back to back.

[illegible] this particular time stout collars kept the steeds hitched to [illegible] repair of the animal's body hitched [illegible]

[illegible] allow greater freedom of movement. The [illegible] of the massive phalanx, which [illegible]

[illegible] was [illegible] by [illegible] of the [illegible] cruiser, [illegible]

[illegible] Mesopotamia [illegible] pottery and the per- [illegible]

Middle Third Millennium B.C. Lassaman, in Lorna Wright's Destination Time the World'—Panorama, Scale of the Volumes

The Royal Tombs of Ur Hide a Grim Secret

Ever since the discovery of the great death pits at Ur by C. Leonard Woolley, who excavated the site on behalf of the British Museum and the University Museum of the University of Pennsylvania, the meaning of these mass burials has posed an acute problem. The best preserved of the tombs are specially built chambers with human victims in each, sometimes 70 or more.

The wealth of the funerary furnishings and the title "King" which is ascribed in connection with one of the principals entombed in this unusual fashion have caused the excavator to regard these particular interments as Royal Tombs.

That is why the names of King Meskalamdug and Queen Shubad have become familiar terms to all those who have had the opportunity to view the many beautiful objects that have been recovered with these burials—in museums of Baghdad, Philadelphia, and London, or in the marvelous publication of the finds. The mass deaths of the attendants have been explained as more or less voluntary acts on the part of the faithful followers of the royal couple.

This theory is attractive but not entirely free from doubt. A king by the name of Meskalamdug is not known in the official lists. Neither is there anything in Sumerian literature or religion to account for such a frightful aftermath of the normal death of a ruler. Others have tried, therefore, to explain the practice as a barbarous survival from more primitive times when the all-important rites aimed at ensuring fertility may have required human sacrifice.

Still others would look for an explanation to the Mesopotamian custom of setting up a substitute king at the time of the great festivals celebrated annually in connection with the New Year, or at times of some overwhelming national calamity (page 80), such ritual kings might eventually be put to death. In the Early Dynastic period the practice may well have entailed the death of many attendants.

Not to decide among the theories but to direct attention, however, to the existence of such a practice and to some of its details, we have introduced a picture of a procession on the way to a death pit.

Some of the victims may already have "gone to their fate"; or the death scene may yet have to take place, so that only the rich furnishings are being transported slowly in the melancholy procession. The lances of the warriors point down as a symbol of ill fortune.

These attendants may be among the designated victims, or they may merely reflect their genuine dejection at the calamity that has already overtaken their peers.

The same would apply to the young girl in the frontispiece, who is pictured as wearing decorations recovered from the burial of Shubad and now displayed in the University Museum in Philadelphia. She might be Shubad herself, or she might be a mourner close to the dead king.

One thing is certain. The dramatic conception of the universe to which the Sumerians and their cultural successors subscribed did not in later times exert a toll on such a heroic scale. The Early Dynastic age boasts many notable achievements in more than one field of human endeavor. The periods that follow may not match this rise in sheer exuberance of effort, but they reflect steady gains toward a more humanized view of life.

Middle Third Millennium B.C. "Who Ascended the Great Gods, Forgotten Deeds and Lost They Determined, but on Death, Its Days They Do Not Reveal." Epic of Gilgamesh

Even the Gods Were Guided by Democracy

IN THE ANCIENT Mesopotamian made his gods much in his own image. He portrayed them as subject to all the ordinary human emotions—love and hatred, good will and ill, moderation and excess. Life among the gods was merely an idealized reflection of life among men.

The basic feature of Mesopotamian society was a profound regard for the rights of the individual. The king was not a supernatural being, no god like the Egyptian Pharaoh. Because he lacked autocratic powers, he was dependent in matters of consequence upon the favor of his gods and the consent of his Council of Elders.

This emphasis on consultation and council approval is met with throughout Mesopotamian history. And it is this same essential democratic feature that gave Mesopotamian civilization its dynamic drive and carried its benefits to many lands and peoples.

Since the gods of Mesopotamia were little more than idealized mortals, we expect the ideal of rudimentary democracy to be evident among them. That such was indeed the case is shown with rare simplicity and charm by the main religious work of Mesopotamia, the Creation Epic.

This epic concerns itself largely with the battle which the benign gods wage against the powers of chaos, who are led by the destructive goddess Tiamat. None of the opposing gods had the courage to face her.

In desperation, shrewd Ea designated young Marduk as the leader most likely to succeed. Marduk was resolute, but his price was staggering. If he was to champion the fight, he must be rewarded with the permanent chieftaincy of the gods.

There was no alternative but to accept Marduk's terms. Yet no act of such importance could be valid unless approved by the full Assembly of the Gods.

Foreseeing objections from the old guard, Ea first entertained the parliament at a banquet. When at length he broached his plan, his guests were too far gone in their cups to demur. The motion was carried unanimously.

Armed with his new authority, Marduk vanquished Tiamat and returned supreme forever after.

The scene before us is the divine banquet of the epic. All the attendants have been transferred from reliefs of the Early Dynastic period: the men carrying the heavy jars of beverages, the pottery stands for the jars; the servants bearing mounds of pastries on their heads; the musicians; and the boy with the sheep.

The divine guests are distinguished chiefly by their horned miters, four horns for the leading deities and two for the minor gods in the background. The drinking is done through tubes, as frequently shown on cylinder seals.

The elder of the two standing gods is Ea, explaining his plan. He is identified by his favorite symbol of the vase with the flowing waters, which we have taken the liberty of depicting as embroidered on his waistband.

The youthful god behind him is Marduk. He holds the ring-and-rod symbol, and his saw-toothed dagger is on his belt. His robe is decorated with starlike rosettes, a feature of Marduk in Assyrian times.

The significant thing about this scene is, of course, not how consent was obtained, but the fact that consent was necessary even among the gods. Representative authority, not autocracy, was the foundation of Mesopotamian society.

Third Millennium Background: "As They Drank the Strong Drink, Their Bodies Expanded, They Became Lazy and as Their Spirits Rose"—the Creation Epic

The Mesopotamian Noah Paints an Appalling Picture of the Great Flood

The [illegible] of Gilgamesh is one of the great creations [illegible] literature.

In his struggle against the fate of all mortals the hero seeks out at long last the survivor of the Great Flood, in order to learn from him the secret of immortality. The quest proves unsuccessful, but the end finds Gilgamesh at peace [illegible]

The impact of the [illegible] gained by the fact that as early as the [illegible] was known [illegible]

[illegible] After a long period of penury, Gilgamesh is at last [illegible] of Utnapishtim, Mesopotamia's [illegible] as the Ark [illegible]

[illegible] 175 miles north- [illegible] retreat "in the Faraway" was imagined to be far too great for compression into a single picture. But so vivid is the tale [illegible] have [illegible]

The Ark is described [illegible]

description in the epic is quite specific, our modern [illegible] as to what is seaworthy had to be discarded. Nothing is [illegible]

As for the figure of Gilgamesh, no Mesopotamian [illegible] Sin, one of the kings of the dynasty of Akkad, as portrayed [illegible]

The dynasty of Akkad, founded by the great Sargon of [illegible]

[illegible] Akkadian age accomplishes the gradual integration [illegible] new elements, which are predominantly Semitic, with the inherited culture as developed by the Sumerians. It is a period of rapid political and geographic expansion, [illegible]

[illegible] great style as a warrior [illegible] quiver, a battle-ax and a mace. But it is not [illegible] any warrior that he affects to be, nor even just a royal hero [illegible]

If we look for a worthy superhuman model [illegible] would be lately to copy as his counterpart, we could scarcely [illegible] of which was god and one-third man [illegible] life that he was [illegible] to find.

Lars Thom Mallerud and Background. "I Paused at the Weather Stillness Had Set In, and All of Mankind Had Retreated to Cover."
From The Flood Tower, Epic of Columbia

The Law Protects Zealously the Institution of Marriage

THROUGHOUT the 3,000 years of its historic progress Mesopotamian society was noted for the supreme position which it assigned to law. The law guided the ruler and safeguarded his subjects. It penetrated every walk and phase of life: the family and the state, commerce and [illegible] and [illegible].

In the last analysis [illegible] and sense of dignity that it inspired in the individual [illegible] institutions among other peoples who at one time or another came within the orbit of the civilization of Mesopotamia. [illegible] the Hittites and the Hebrews.

[illegible] assemble the existing laws into a systematic code was generally ascribed to Hammurabi (page 85), the greatest king of the First Dynasty of Babylon, who is now dated to the end of the 18th and the beginning of the 17th century B.C. Within the last two years, however, two new codes of law have been discovered, each older than the Code of Hammurabi.

One of these turned up at the University Museum of the University of Pennsylvania. Its text is Sumerian and it has been [illegible] by Dr. Francis Steele. [illegible] the laws of the city of Eshnunna, in an Akkadian formulation [illegible] by Dr. [illegible].

Both these [illegible] to have been the first codes used in Mesopotamia. The inscriptions of Urukagina, the last of the early rulers of Lagash, at the end of the Early Dynastic period, already imply the existence of established legal norms.

It is therefore a reasonably safe assumption that by the turn of the third millennium—that is, in the so-called Neo-Sumerian period which followed the dynasty of Akkad—the land enjoyed the security of broad legal protection. It is in that period that the accompanying scene is laid.

The scene depicts the sealing of a marriage contract in Lagash, at the time of Gudea. The father, having received the stipulated bride price, indicates his readiness to give away his daughter by affixing his personal seal to the requisite document [illegible].

[illegible] the detail would be impossible to follow. Dress and [illegible] ture are based on monuments from the time of Gudea, whose statue occupies a place of honor on the right. The bride's mother is modeled after the famous representation of a [illegible].

[illegible] feature in the life of Mesopotamia, we have chosen to make the bride's father a physician to the king. The inscription on the seal, copied from a real cylinder, says so explicitly.

[illegible] It was [illegible] motif is that of entwined serpents. It was to become known as the caduceus, a symbol of medicine and, in modern times, [illegible] however, [illegible]

Twentieth Century B.C. "If a Man Takes to Wife a Man's Daughter Without Asking Her Father and Her Mother and Without Executing a Sealed Marriage Contract . . ."—Laws of Eshnunna

Early 18th Century B.C. "That the Dynasty Might Not Come to an End, King Lera-Iqisha Placed the Credence Tablet-Bearer as a Substitute Figure upon His Throne."—Chronicle of an Old Babylonian King

A Mock King for a Day Stays On to Rule for a Lifetime

In [illegible] the plate (page 72), we mentioned that one [illegible] of the so-called Royal Tombs at Ur was that those [illegible] substitute king.

At any rate, there is no doubt that Babylonia and Assyria, [illegible] the institution of a substitute ruler. [illegible] of stress. And since each New Year was regarded as a fateful period, the crowning of such a king-for-a-day appears to have been also an annual occasion.

[illegible] New Year [illegible] Anxiety over the disposition of the gods gave way at long last to unmitigated joy (page 134).

The substitute king seems to have been a feature of the [illegible] wanted privilege of appeasing the gods while amusing the [illegible] by paying with his life for his brief occupancy of the throne, may have been a prisoner, political or otherwise, who had already run afoul of the law.

[illegible] the First Dynasty of Babylon, set up the gardener [illegible]

Things did not go off at all according to plan, however. The all too brief statement goes on to say that, after the crown of royalty had been placed on the substitute's head [illegible] place while sipping a hot brew [illegible] from [illegible] that was himself installed as king.

In other words, the victim who had been set [illegible] a mocking stock [illegible] from a rare prank of fate and was [illegible] very rapidly, as we know from independent sources, for no less than 24 years.

The scene takes place in front of the royal palace. A [illegible] temporary structure of the Third Dynasty of Ur, is seen in the background.

The victim, decked in royal garb, is seated upon a throne which has been placed in the center of the square. An official [illegible] gathering give vent in various ways to their long-pent-up [illegible]

[illegible] throat to obtain the desired effect—dressed in colors pre-[illegible] Assyrian, do their best to follow the music; and a pair of boxers has attracted a miscellaneous group of spectators to another section of the square.

[illegible] for the occasion, to glance anxiously at the moon that [illegible] to the top of the palace wall. At that [illegible] will not be found wanting at this juncture.

Eighteenth Century [illegible] "Gibran for Me a Line Save God, One Who Has Attained Alone Eve" (Ex. Babylonian Letter)

A Prosperous Babylonian Matron Shops for a Slave Girl

BABYLONIAN LAW, as represented by the famous Code of [illegible]

Always an economic asset under that system, slaves were the victims of capture by war or of helpless indebtedness in their own communities. [illegible] purchase in the open market.

[illegible] to the sturdiness and other desirable qualities of these mountaineers, though one hardly enjoyed by the victims.

[illegible] symbol for "male slave" is made up of the signs for "male" and "eastern mountains" while the symbol for "female slave" is similarly composed of the signs for "woman" and [illegible] old as Canaanite writing itself.

Interestingly enough, the highly competent porters of modern Baghdad are members of a special ethnic group, not Arabs or Kurds, but Lars, from the Iranian district of [illegible] possibly the [illegible]

The cost of slaves was subject to variation from place to place and from period to period. Prevailing political and [illegible] The average price was between 30 and 40 shekels of silver, or as much as the cost of three or four ordinary balls.

[illegible]

In Hammurabi's times (end of the 18th and beginning of the 17th century B.C.), one of the best known slave centers [illegible] country. The background of our scene is a section of that city, reconstructed by the American excavators from the Oriental Institute of the University of Chicago.

The prospective buyers include one (with the crooked cap) from as far west as Mari. To the left is seen a prosperous [illegible] to an even more prosperous Babylonian woman.

[illegible]

[illegible] strength [illegible] Mesopotamia [illegible] have to perform [illegible]

It is doubtful whether their prodigious feats of strength will remain on display much longer, for not a few of the Lars of Baghdad have been sending their sons to Oxford.

Early 17th Century a. c. "This Present Year is a Leap Year. The Coming Month Shall Therefore Be Recorded in Pitul II"—
Abdolmajid Arab Correspondence of Hoshiarshi

The Great Hammurabi Keeps an Eye on Taxes

In [illegible] Mesopotamia for several centuries prior to the accession of Hammurabi, greatest ruler of the First Dynasty of Babylon. Great strides had been made not only in the study of law but also in language, literature, music, and [illegible] of the physical and natural sciences.

Among these was the science of astronomy, even in those [illegible] in which the Babylonian was especially adept. Astronomy had an important bearing on religion [illegible] of Hammurabi that he knew how to [illegible] service of the state [illegible]

For the art of Babylonia at the time of Hammurabi we have to look outside the capital, because at Babylon itself [illegible] of the early levels. We [illegible] tion of contemporary painting, thanks to excavations by the Louvre Museum on the site of ancient Mari, on the Euphrates, [illegible] between [illegible] Mesopotamia.

Since Mari was strongly influenced by [illegible] contact, we have used [illegible] the Mari [illegible] for the background of our illustration. Some such scene might well have [illegible] the throne room of Hammurabi in which our subject has been placed.

The painting shows two symmetrical groups of three [illegible]

[illegible] half [illegible] between [illegible] Mesopotamia [illegible] gaunt [illegible] the center.

The king, seated on the throne, is giving instructions to his vizier. The reason for the audience is the court astronomer, who stands beside the throne. He can be identified by [illegible] Venus [illegible]

[illegible] king has been informed that the current intercalary month is at hand. Hammurabi orders the next month to be not Tesiri, the seventh month of the Babylonian calendar, but the sixth month repeated, that is, Elul II.

[illegible] the king [illegible] vizier what this will mean [illegible] festival [illegible] on the 25th of [illegible] Babylon, [illegible] II.

[illegible] which the [illegible] will be promptly relayed to the two couriers standing by the [illegible] will [illegible] and [illegible] of the [illegible]

The composition on the stele is in shadow except for a [illegible] that the [illegible] as firm as heaven and earth.

[illegible] The facial features of Hammurabi have been copied from [illegible]

Sixteenth Century [illegible] "Come In Guardian of Health!" "Go Out Guardian of Evil!" Inscription on the Arms of an Assyrian Protective Figure

Medicine Teams Up with Religion and Magic

[illegible]

[illegible] But, as has happened [illegible] the conquering barbarians were soon vanquished in turn by the superior [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] of having caused the malady. One of the priests [illegible] holding a bowl which, no doubt, contains some magic [illegible]

The boy's hands are held open, in a gesture of supplic[illegible] [illegible] the right hands of the fish-garbed priests. [illegible]

[illegible] purposes of the omen hut[illegible]

The shape of each minute detail on the fresh liver was [illegible] the past, a ruler [illegible] ruler's death from an infected toe, or a king's sad fate after a ladder had fallen on him. Each of these instances, [illegible]

[illegible]

Fifteenth Century [illegible] "No, No [illegible] Wrong in [illegible]!" [illegible] the Records about the [illegible]

Justice Catches Up with a Corrupt Magistrate

MESOPOTAMIA from remote prehistoric times was a magnet for many races and peoples. The story about the Tower of Babel could hardly have been inspired by any other country.

Previous scenes and their descriptions have dealt with proto-Sumerians and Sumerians, Semites and Elamites, Kassites and Hittites. Another significant element, different in linguistic stock and in much of its culture, is represented by the Hurrians, the Horites of the Bible.

Members of this group played important roles throughout the ancient Near East in the second millennium B.C. Hurrian influence on the Hebrews is now known to have been [illegible]ly significant. In Mesopotamia the Hurrians were luckily settled in the region of the modern oil center of Kirkuk.

These settlements have yielded a distinctive type of painted pottery, a repertory of new designs on cylinder seals, a novel type of painted wall decoration, and a rich collection of written records which afford a vivid picture of Hurrian society and of individual Hurrian personalities.

The most productive Hurrian site known to date is that of Nuzi, 20 miles southwest of Kirkuk, excavated by a joint expedition of the Iraq Museum of Antiquities, the American School of Oriental Research in Baghdad, and the Harvard Semitic Museum.

The present scene takes place in the Nuzi courthouse, whose walls are adorned with brilliant frescoes, a type not previously found in Mesopotamia. A painted house banner in the corner and painted goblets on the table provide additional examples of Hurrian forms and decoration.

Seated at the table are three judges, their heads covered with austere hoods, each man equipped with the traditional cylinder seal with which he will certify his verdict. They listen attentively. A scribe is at pains to record the testimony.

The accused is the mayor of the city, who is to become notorious in the local annals as the corrupt Kushshiharbe. He is flanked by two constables who wear copper coats of mail recalling the scale armor of Goliath. The excavations have yielded one such armor in a good state of preservation, and many scattered metal scales from other similar pieces of equipment.

The mayor's accuser is one of his former henchmen turned state's witness. The charges include various instances of malfeasance in office: bribery, intimidation, kidnappings; and the mean magistrate had even caused water to be mixed with milk.

Most of the testimony of this and of previous witnesses had left the accused impassive. He is aroused, however, by an allegation involving the comely girl Hametel, who stands by nearby. Against her will, it is charged, the girl had been dragged to the private residence of the mayor.

Kushshiharbe is vehement in his denial. But his words appear to have fallen on deaf ears, for generations later the trial of Kushshiharbe was still mentioned as a significant turning point in the history of the city.

That the cruel magistrate of a city entrusted to his charge some 3,400 years ago should have been guilty of corruption and excesses is scarcely surprising. What is highly significant, however, is that he was tried and made to pay for his misdeeds. The nature of the penalty is not recorded.

Assyria Gains the Upper Hand over Babylonia

While Sumer and Akkad and Babylon were making history in Lower and in Central Mesopotamia, a city on the middle Tigris was rising slowly to ever increasing prominence. Its name was Ashur, as was also the name of its chief god. The state that city came to control—one which developed eventually into a far-flung empire—is known as Assyria.

About the time of Hammurabi Ashur enjoyed sufficient independence and power to make its influence felt in distant Cappadocia, an easterly area of Asia Minor. Later in the second millennium the city came under the domination of the Hurrians. In the relative balance of power which prevailed in western Asia in the 15th and 14th centuries B.C. gave the resolute native rulers of Ashur their chance to gain complete freedom.

From then on it was a story of constant rise with the kings of Ashur becoming the equals of other monarchs. From the end of the second millennium down to almost the middle of the next they were leaders and finally masters of the Fertile Crescent.

Ashur's closest neighbor of any prominence was Babylon. The relations between the two were much like those that many centuries later characterized Greece and Rome. Babylon was the cultural center, but no match for its northern neighbor in war and politics. Ashur, on the other hand, was keenly resentful of its inferiority in culture. The resulting rivalry was acute and bitter.

The scene seeks to capture that moment in history when the political tide had swung for the first time decisively in favor of Ashur. This occurred during the reign of the vigorous Assyrian king Tukulti-Ninurta I. The words which he uttered on humiliating the captured Babylonian king, Kashtiliash IV (opposite page), were to become symbolic of the future status of these two states.

Tukulti-Ninurta I transferred his capital from Ashur to a near-by site, to which he gave his name. It was excavated by a German expedition under Walter Andrae, and the results of that work are ample for a reconstruction of the life of the period.

The great hall houses upon a niche containing a sculptured stand bearing the statue of the chief deity, who holds in his left hand the rod-and-ring, used as a symbol of authority.

The king, clad in a rich fringed garment, has been copied from one of his reliefs. His sandaled right foot is placed on the neck of the Babylonian. In his right hand he holds the scepter with which he touches the skull of his prisoner, while his left clutches the ring, this time separated from the rod. The garment of Kashtiliash has the vertical folds which often distinguish the Babylonian dress from the Assyrian.

The scene is witnessed by the vizier, beside whom stands a Syrian emissary with an Anatolian observer wearing the typical pointed shoes.

The decoration has been selected from among the scenes uncovered on the walls of Tukulti-Ninurta's palace. One of these paintings has been utilized for a wall piece of woven material placed over the side door flanked by two soldiers. The design shows two mythological figures, back to back, one on red and the other on blue.

The left hand of each holds a basket or bowl of gold, with some substance which the right hand now places on the conventionalized palm to lend it greater fertility.

1243–1207 [illegible] "Il – Royal Neck I Treat with Mt. Tout, Tiss[illegible] — Annals of Tukulti-Ninurta I

The Assyrian Military Camp Was No Place for Idlers

For all its youthful vigor, Ashur required several centuries to consolidate the position which had been carved [illegible] Assyrian [illegible] Syria, Asia Minor, and Egypt. [illegible] Assyrian [illegible] required [illegible] and [illegible]

The Assyrian [illegible] was [illegible] a [illegible] burden on the people, conquerors and conquered alike, to [illegible] were successful, however, in terms of political and geographic [illegible] [illegible] possible [illegible]

If the vitality of a state may be measured not so much by its size as by its principal artistic expression, then the height of Assyrian power was reached in the first half of the [illegible] under Ashurnasirpal II.

The present painting is laid against a background of war and chase, respectively the principal occupation and pastime [illegible] they are [illegible] ceramics of the period. By using the device of a military [illegible] possible to bring in a number of separate scenes which combine into a characteristic and authentic picture of the age.

The center of the camp is taken up by the royal canopy. [illegible] The king's face is known to us from the reliefs, as is also [illegible]

The colors of the cloth cover on the table and the dark blue of the headdress are based on contemporary painted [illegible] Although [illegible] due to [illegible] used on the canopy, which is typical of Ashurnasirpal's age.

The typical chariot of this period was mounted on six [illegible] later Assyrian [illegible]

Against the camp wall, to the left, an attendant is filleting and cooling water, employing the same system used by the [illegible]

Around the water [illegible] In the corner to the right an orderly is busy in an officer's tent making up his master's cot. Another servant is helping [illegible]

The remainder of the crowded interior of the camp is [illegible] their tools, and [illegible]

The entrance to the camp is guarded by armed soldiers. One of them can be seen behind a tall shield held on the ground by the left foot inserted in a notch. The footgear [illegible] by the Assyrians of later periods.

Approaching the entrance is a group of men carrying a slain lion. They are accompanied by a boy with two [illegible]

[illegible] later, we can obtain fine representations of these beasts from the sculptures of Ashurnasirpal and their disciples under [illegible]

883–859 B.C. "Nanurta and Nergal, Who Love My Priesthood, Intrusted to Me the Wild Creatures of the Field, Commanding Me to Enlarge the Chase." From an Inscription of Assurnasirpal II

A Dead Assyrian Is Furnished with Provisions for the Beyond

[illegible] Mesopotamia [illegible] according to period and the particular cultural group involved. Bodies might be extended or flexed and put to rest [illegible] wrappings.

[illegible] burials took place in special areas set aside for cemeteries [illegible] the residential precinct, on a mound that may have gone through [illegible] outside the property of the deceased.

The Assyrians [illegible] the view that the dead belonged just in the house which they had occupied during their lifetime. In this manner [illegible] endless wandering. Where the decedent had been well to do, [illegible] door that could be reached through a steep shaft.

Our scene depicts the interior of the house of an Assyrian nobleman just "gone to his fate." The details of the room are based on Walter Andrae's reconstruction of the so-called Red House in Ashur.

The solid wooden doors swing in the poles set in sockets lined with metal and are surmounted by ornamented [illegible] figurine of the house god is a place suitable for private [illegible].

A service for the dead is being performed by the eldest son of the house. The master has just been removed from his deathbed and placed on the stretcher, on which he will be borne to his grave, his right hand resting on a plate filled with the food he will need in the hereafter. The widow's [illegible] reached the vaulted tomb for the last rites.

[illegible] vault of Ashurnasirpal II, together with his huge stone [illegible].

[illegible] walls rested upon three layers of the same type of slab engraved with an inscription of the king repeated 18 times. [illegible] 6 feet in height and in width. It was carried on three sides an engraved inscription of the monarch.

[illegible] massive lid of the sarcophagus. The Epic of Gilgamesh tells us that the hero's departed friend, Enkidu, appeared to Gilgamesh through an aperture in the earth. The opening was for the use of the spirit of the dead.

In addition to the plate with food, the body was buried [illegible] down and the door of the chamber had closed forever.

Ninth Century [illegible] to "The Canals Wind, the Watercourses Echo Thee [illegible] Or Trees and Plant the Grove In Darkness!" Prayer to Assurnasirpal Entered Text

To the Victorious Assyrians Belong the Spoils

The [illegible] of Ashur northward brought with [illegible] Ashur to Calah (Nimrud) and later to Nineveh, where it was to remain till the fall [illegible] the [illegible] of the [illegible]

[illegible] moves were already in evidence under Ashurnasirpal II (page 9[illegible]). Yet throughout Assyrian history it was the city of Ashur that [illegible] and where they sought the favor of the gods and protection from foes by building temples and fortifications.

Shalmaneser III, son and successor of Ashurnasirpal, was [illegible] and where [illegible] had been particularly vulnerable to attack.

Our scene takes place before the west gate of Ashur [illegible] all sides. The spacious but well-protected interior of the gateway was broken up into two large halls with room [illegible] of the king seated upon a cube-shaped throne.

No distraction must interfere with the brief intervals [illegible] a little time out from their daily chores and enjoy a quick [illegible]

[illegible] Shalmaneser III [illegible] treaty to review his troops [illegible]

Behind him stands an official [illegible] recede in two strifes. One [illegible] with stylus on clay, and the other, in Aramaic with pen on [illegible] the wall paintings uncovered by the French at Til Barsib.

The column is led by a horseman followed by three [illegible] of war [illegible] her head. Following these are a battering ram, a detachment of the Assyrian infantry [illegible] ship of war chariots.

Shalmaneser III recorded his exploits and [illegible] not only in the official annals of his reign and [illegible] and bronze but also on the famous Black Obelisk [illegible] found at Calah. Fragments of another [illegible] were [illegible] at Ashur.

Of the scenes depicted on this large [illegible] which stands well over six feet in height, perhaps [illegible] is the one that deals with the tribute of "Jehu, son of Omri," king of Israel. The monument was a record, in word and relief, of the king's military achievements down to the thirty-first year of his reign. But his account was not precise by modern standards; Omri was not the father of Jehu, but an Israelite king of another dynasty.

858-824 B.C. "To Rule and Subject in Anger, the Dogs of Ashur, He Sent Me Forth" Annals of Shalmaneser III

The Ambassador from King Midas Marvels at the Wealth of Sargon's General

As the Assyrian rulers mentioned so far had been members of a single dynasty. The task of gradually raising the country to the status of a world power had apparently absorbed all the energies of its leaders and left little [illegible]

Towards the end of the 8th century [illegible] however, the [illegible] of a new royal house. Respecting tradition, he tried to [illegible] "The King Is Legitimate."

[illegible] Sargon II. He called the [illegible] Sargonburg. [illegible]

[illegible] new title and his magnificent [illegible] Within a span of years he was killed [illegible] land.

He had managed in that short time to carry the might [illegible] places which none of its predecessors had ever seen. [illegible]

[illegible] Thanks to the recent excavations by the Oriental Institute of the University of Chicago at Khorsabad, the site of Dur Sharrukin, we now have more details from that [illegible] building. The one here [illegible] by the Oriental Institute. The [illegible]

The Assyrian's dress is amply attested on contemporary [illegible] from a number of scattered sources. He holds a straw fan in his right hand and a partly folded "foreign" cap in his left. [illegible]

Winged genii of fertility form the inner border of the tribal panel, much in the manner of borders on old Persian carpets. The same genii, but this time in kneeling position, fill two of the three registers in the lowest of the three friezes.

The middle register of the decoration [illegible]

72, 715 B.C. "The Gods Who Dwell in Heaven and on Earth . . . Granted Me the Fearful Boon of Building That City and Crowned Old Ur Its Model" Inscription of Sargon II

A Huge Guardian Statue Is Hauled Up the Slopes of Nineveh

[illegible] a civil, versatile, and attractive personality. Many [illegible] chiefs felt the lash of his wrath, among them Hezekiah [illegible] Thus the [illegible] the elegance of Sennacherib [illegible] in relations with [illegible] little time, on receipt of the news of [illegible] Nineveh.

The result was a spacious center in [illegible] supply of fresh water [illegible]

[illegible] Assyrian [illegible] the building from all [illegible]

Earlier types, from Ashur[illegible] shown in two views, from the front they appeared to be standing, but the side view showed them in motion. This [illegible]

[illegible] up the steep [illegible]

[illegible] Nineveh [illegible] the confluence of the Khosar and [illegible] right bank by long ropes. A sledge supporting a human-headed bull is being moved off the raft and up the slope.

[illegible] Its lower end is wedged under the sledge by large rollers [illegible] is also on rollers. A bucket gang keeps the track wet.

Four long chains of captives are pulling the monstrous load of 40 tons up the slope. Each chain gang is directed by a supervisor and goaded by a man with upraised whip.

From the front of the raft the workers are urged on by a [illegible] who claps his hands rhythmically and [illegible] who employs a sort of speaking horn. The rich garb of the [illegible]

Near the top of the slope stands the wheeler, the one from [illegible] is protected from [illegible] stands on one side, as two attendants with flywhisks are ready to act. All the Assyrians [illegible]

The king's guard consists of Greek shieldbearers [illegible] armed with bows and arrows. The lancers wear half-[illegible] but the [illegible]

Along the lower part of the slope moves a line of carts [illegible] ment. Down by the riverbank, water for the bucket gang [illegible]

[illegible] site bank, who are using inflated skins to get across.

[illegible] "White Limestone . . . the People of Distant Lands . . . Quarried . . . I Turned It into Protective Bull Colossi for the Gates of My Palace" Annals of Sennacherib

Queen Mother Naqiya-Zakutu Nips a Revolt in the Bud

I[illegible] Queen [illegible]

[illegible] eventually spread to distant lands. [illegible] fact and [illegible] handed [illegible] with achievements equal [illegible] Naqiya-Zakutu.

[illegible] Naqiya-Zakutu [illegible] of Palestine or Phoenicia [illegible] Naqiya-Zakutu [illegible] royal [illegible] older [illegible] another with [illegible]

[illegible] paid with his life. His [illegible], by subjugating Egypt.

Nor did her amazing exploits cease with the death of her son. [illegible] generation, when her favorite grandson, Ashurbanipal, ascended the throne [illegible] Naqiya-Zakutu's [illegible]

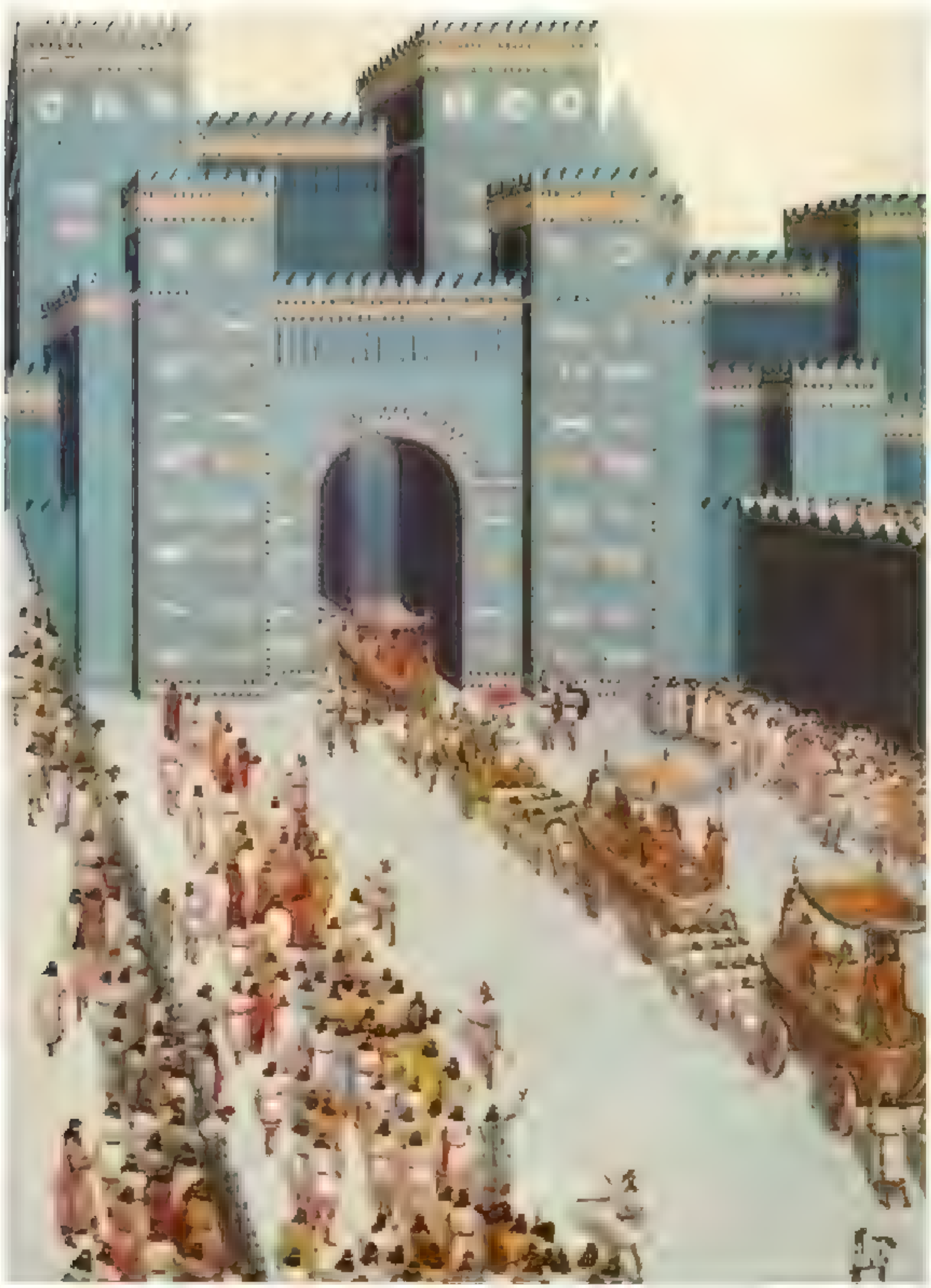
Our [illegible] of the royal [illegible] sister the Princess Sherua-Eterat. They have been surprised by their grandmother, who is followed by their brother, King Ashurbanipal, as they were plotting the murder of their hated sovereign. The dowager queen will know how to put an end to such schemes.

[illegible] of the Babylonians, characterized by [illegible]

[illegible] as well as those [illegible] period [illegible]

[illegible] together from [illegible] and personality of the foreign-born queen, who could [illegible] rank [illegible]

Time of Assurbanipal (668–626 B.C.) "You Who in Your Hearts Are Hostile to Me, You Who Counsel and Discuss a Wicked Scheme . . . Concerning the Murder of Ashurbanipal" — From an Assyrian State Letter



Tablet of Nebuchadnezzar II (604–562 B.C.) "By the Side of Ishtar of Babylon . . . All Babylon Goes Festival"—A Babylonian New Year's Text

A Babylonian Procession Greets the New Year

With Assyria crushed and Nineveh razed to the ground, Babylon had at last the opportunity to regain the prominence and prestige that had been its let more than a thousand years earlier, during the golden age of Hammurabi. Its fondest hopes were realized under the long and able rule of Nebuchadnezzar II.

The Old Testament remembers this king as the ruthless conqueror who destroyed Jerusalem in 586 B. C. Babylonian history, however, celebrates him primarily as the conscientious administrator and tireless builder who made his capital the greatest city of that time in the world.

To be sure, this brilliance was to be only temporary. Just as the end of Asburbanipal's reign at Nineveh was separated by only a few years from that city's destruction, mainly at the hands of the Medes, so was Babylon's glory under Nebuchadnezzar to be followed by the triumph of another Iranian army, led this time by the great Persian king Cyrus, who occupied the ancient metropolis in 539 B. C.

The Babylon whose praises Herodotus sang was the Babylon that Nebuchadnezzar had fashioned. Among its many outstanding attractions was the famous Procession Street which passed under the unforgettably impressive Ishtar Gate. South of the Ishtar Gate, and along the west side of the great avenue, could be seen the fabulous "hanging" roof gardens and the seven-staged temple tower the Tower of Babel, some three hundred feet tall.

The Procession Street got its name from the annual procession of the gods in connection with the New Year's festival. Assembled from all the provinces of the kingdom, the statues of the principal deities were first carried with solemn ceremony and in a rigidly observed order of precedence through the Ishtar Gate and out to the northern outskirts of the city. There they were transferred to boats and taken to the Garden Temple up the river.

Then followed the most dramatic part of the entire cycle, the consummation of the sacred marriage of the principal god and goddess, on which depended the fertility and prosperity of the whole land.

Our scene witnesses the joyous return of the procession, on the eleventh day of the month of Nisan, through the north side of the Ishtar Gate. The beautifully enameled decoration speaks for itself. The approximate dimensions of the north side of the Gate are 70 feet for the height of the towers and 35 feet for the height of the vaulted passageway; the width of the entrance was about 15 feet. The south end was considerably taller.

The gods are placed in so-called carriage boats, each decorated with gold, lapis, and carnelian. On the first boat rides Marduk, attended by four priests, one at each canopy post. Behind the first boat is the royal chariot drawn by three steeds; on it rode the driver, the king, and the parasol holder.

The second boat carries Marduk's consort, whose crown is surmounted by an eight-pointed star. Next comes a boat with the seated figure of the sun-god, Shamash. Hidden from view is a seemingly endless procession of other deities, whose name and rank are supplied by the texts.

The illustration is based on the carvings from Malatya, far north of Babylon. Each major city celebrated the festival in much the same way.

The Merrimack: River of Industry and Romance

By Arthur W. Atwood

[illegible]

THROUGH [illegible] majestic mountains, the Merrimack becomes, before it reaches the sea, one of the hardest worked rivers in the world, a veritable slave in the service of industry.

True, it no longer makes its once proud boast of turning more spindles than any other river, or of being the "most utilized water power stream in the world." But its banks, in city after city, are still lined with miles of monster mills, busy, if austere and somewhat grim, and still a major factor in the sum total of America's productive effort.

But it would be a mistake to think of the Merrimack, past or present, as only a workaday river. Not only does it present a kaleidoscopic physical diversity, but it brings to mind many of the most romantic aspects of Colonial and early American history; of the struggles of the first settlers; of fierce, bloody Indian warfare; of the almost unbelievable wealth of its shad and salmon fisheries; and of shipping and shipbuilding in its lower reaches.

Moreover, the very industrialization of the Merrimack stems from the constant, unfailing supply of water which New Hampshire's mountains, forests, and lakes make possible. These at the same time constitute one of the country's foremost vacationlands.*

River Born in Profile Lake

In the heart of this land the Merrimack has its beginnings in the tiny Pemigewasset, which flows out of Profile Lake at the foot of the Old Man of the Mountains in Franconia Notch, New Hampshire (page 144).

On one of my visits to Franconia Notch highway crews were clearing the road of boulders, uprooted trees, and earth. These were the remains of a huge landslide which, loosened by a cloudburst, roared down the steep slopes of Mount Lafayette and Eagle Cliff and buried Route No. 3, one of the most important in New England.

The most famous previous slide was that which killed the Willey family—father, mother, five children—and two farm hands in the Crawford Notch in 1826.

It was Nathaniel Hawthorne who gave fame both to the Willey Slide and the Old Man of the Mountains.† Thousands go to Profile Lake not to see the source of the Merrimack or the lovely Little Lake itself but, fascinated at finding a human face in an inanimate thing, to gaze 1,200 feet upward at the several layers of granite ledges which, especially in the late afternoon light, give the appearance of the profile of a great human face (pages 124-125).

Daniel Webster is supposed to have said that a shoemaker hangs out a shoe, a jeweler a watch, and a dentist a gold tooth, "but in the mountains of New Hampshire God Almighty has hung out a sign to show there He makes men." Hawthorne wrote: "It seemed as if an enormous giant, or Titan, had sculptured his own likeness on the precipice."

After leaving Profile Lake the Pemigewasset is a swift little stream, plunging down the steep mountain notch over falls and cascades.

Thoreau's Description Still True

More than a century ago Henry David Thoreau, author and naturalist, spoke of it as it first comes "murmuring to itself by the base of stately and retired mountains, through moist primitive woods whose juices it receives, where the bear still drinks it, and the cabins of settlers are far between and there are few to cross its stream."

Except for an almost complete absence of wild animals and for the fact that at certain points there are many persons indeed to "cross its stream," Thoreau's description still holds good.

South of the great mass of the White Mountains lies Lake Winnipesaukee, by far the largest of New Hampshire's 1,300 lakes and ponds (page 137). Its outlet, the Winnipesaukee River, joins the Pemigewasset at Franklin, 16 miles to the southwest, to form the Merrimack (map, page 109).

Winnipesaukee has nearly 300 islands and many and deep indentations; the extreme irregularity of its shape is especially evident from an airplane or from the tops of surrounding hills.

It is so extensively used for recreation that it boasts a registration of nearly 2,500 motorboats. The first intercollegiate eight-oared boat race in the United States, between Harvard and Yale, took place here on August 3, 1852.

When the water in Lake Winnipesaukee is low and quiet, and atmospheric conditions fa-

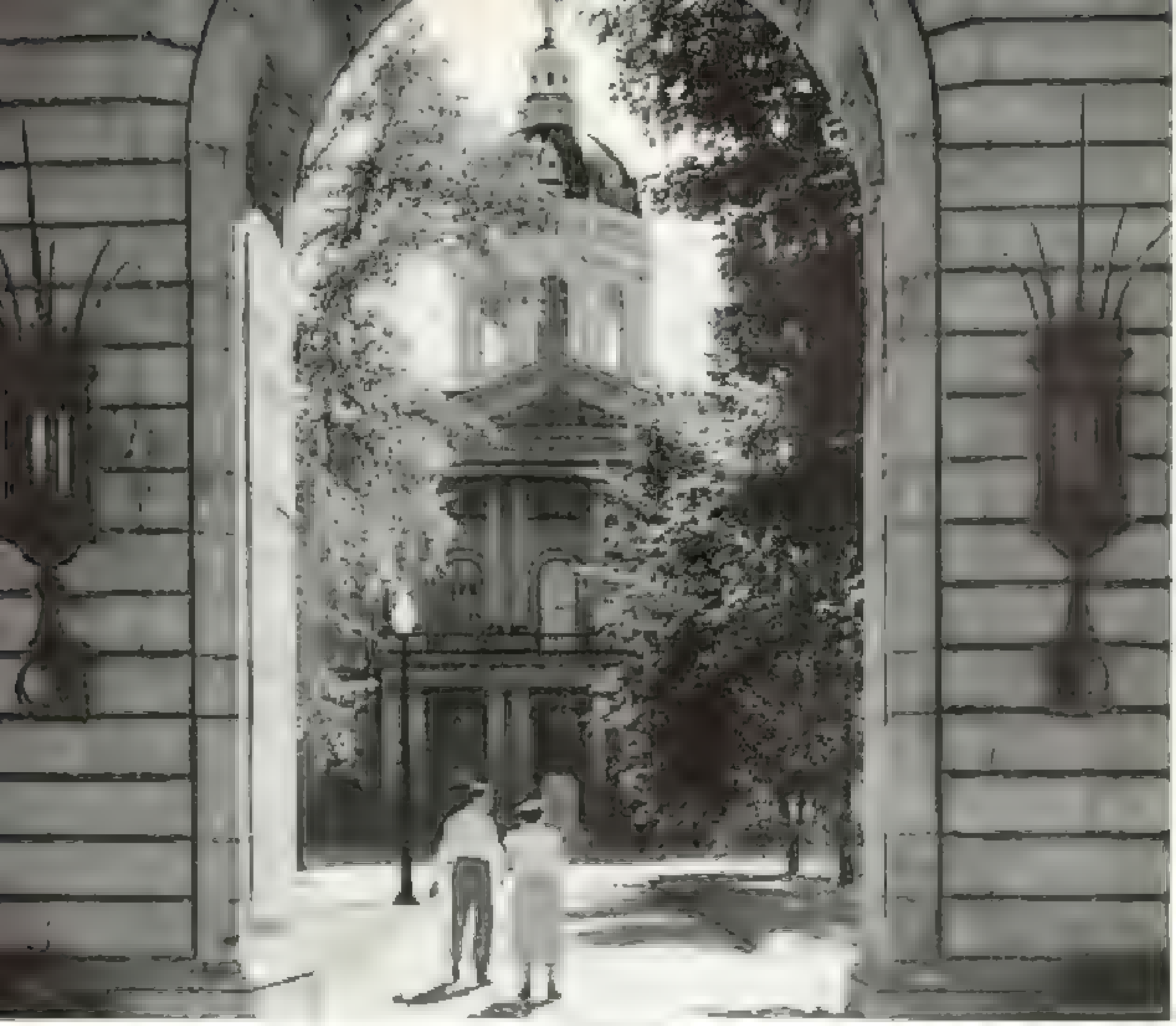
* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "Skiing the Trail from Maine to Georgia," [illegible] Brown, August, 1940; and "Skiing Over the New [illegible]

† See "Literary Landmarks of Massachusetts," by William H. Nichols, NATIONAL GEOGRAPHIC MAGAZINE, March, 1950.

Miniature Wagon and Homemade Rug Exemplify New Hampshire Handicrafts

[illegible]

[illegible] are not the only [illegible] Boston & Maine [illegible] Concord [illegible] one of the [illegible] Merrimack [illegible] Concord [illegible] Boston [illegible] August 2



Native Granite Frames New Hampshire's Domed Capitol: Concord

[illegible] Franklin Pierce. [illegible] Perkins, a [illegible]

[illegible] Lake Winnipesaukee [illegible] However, in the past century the [illegible] population [illegible] New Hampshire [illegible]

Country's Largest Maker of Skis

The state center of the New Hampshire Lakes region is a little industrial city, Laconia, which boasts one of the world's largest [illegible] of circular knitting machines. Scott & Williams, Inc., [illegible] & Company. That company supplied the [illegible] in World War II with large quantities [illegible] also makes toboggans, snowshoes, [illegible] hockey sticks.

In the hill town Tuftonboro I visited the [illegible] of the Institute of New Hampshire Arts and Crafts [illegible] New Hampshire [illegible] State [illegible] part of the arts and crafts movement, [illegible] Governor Wilson [illegible] Governor, the work [illegible] of the State's vocational education [illegible]

The chief aim of the movement is to augment the income, often of elderly persons and [illegible] physically handicapped, who in this rigorous northern climate cannot earn [illegible] income from farming or other [illegible] resorts [illegible]

[illegible] New Hampshire [illegible] National Convention. Mr. [illegible] the late Senator George H. Moses [illegible] "Bank of Uncle Warren Dowell's [illegible]

When I visited the quiet confluence of the

* See "New Hampshire, the Granite State," by George Higgins Moses, [illegible]

No Steamer-laden Old Man River Is the Merrimack—It Turns the Wheels of Commerce

From Franklin, New Hampshire, where two confluents form the main stream, the Merrimack flows only 110 miles before it empties into the sea just beyond Newburyport, Massachusetts. In that short span waterfalls and rapids drop its waters 2[illegible] feet and halt navigation beyond the last 18 miles.

These river cascades, seeming hindrances to man, have fed entire communities and created large fortunes. First the Indians and later the colonists employed the cascades for spearing and netting salmon, shad, alewives, and lampreys. Then the settlers, noting the power going to waste, built dams, canals, and grist mills.

When Britons started the Industrial Revolution, displacing hands with machines, New Englanders borrowed their methods and established textile mills using the Merrimack's free power. Soon miles of factories lined the stream. Manchester, Nashua, Lowell, Lawrence, and Haverhill grew powerful by making the river their uncomplaining slave.

Lately part of the textile industry has drifted south, but the Merrimack remains an industrial giant.

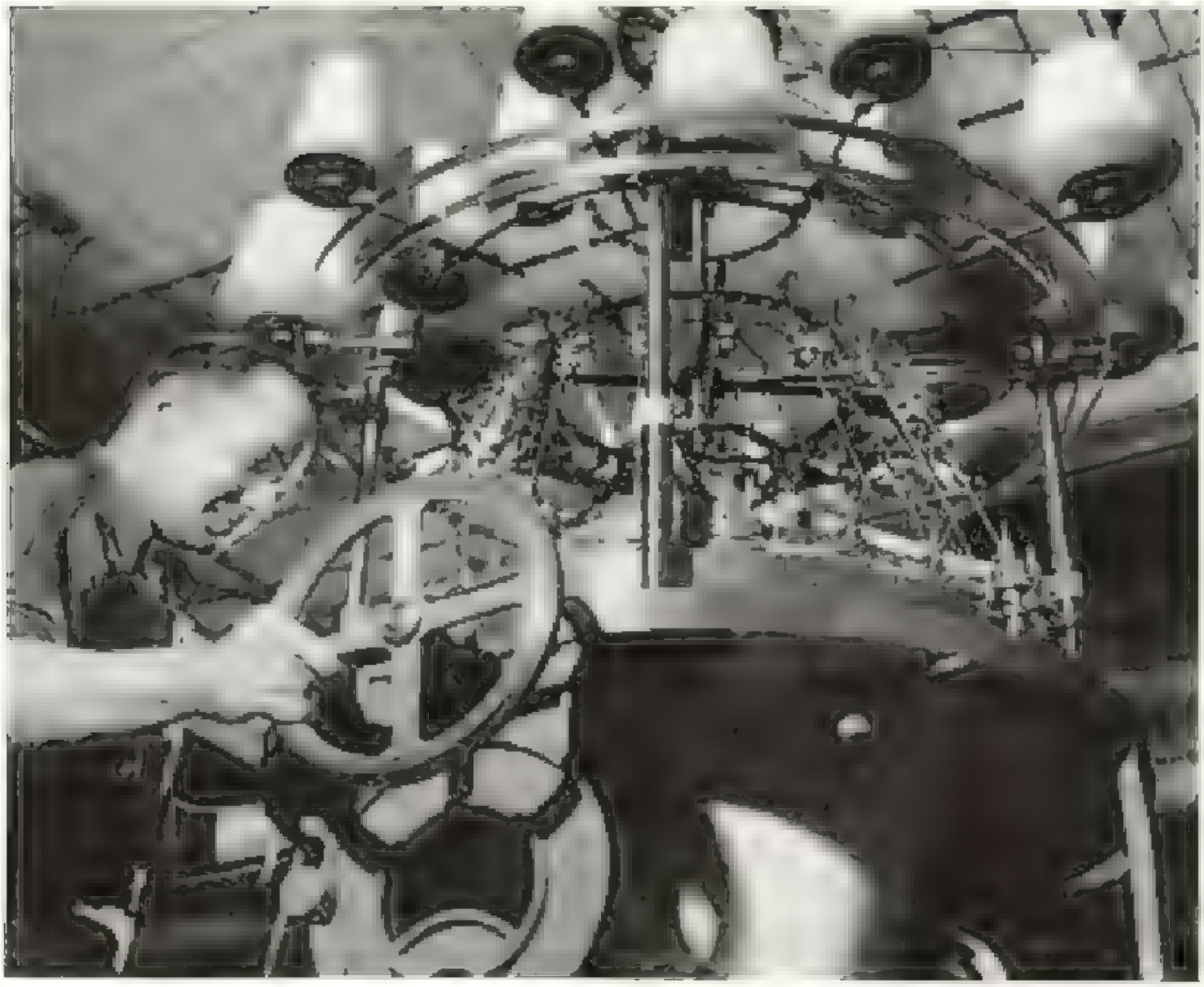
Because of dams and pollution, shad and salmon no longer school in from the sea. But the Merrimack's mountain lakes teem with [illegible] Many [illegible] Pro[illegible] the river [illegible] to see the Old Man of the Mountains, Hawthorne's Great Stone Face (page 135).

Merrimack Water Diverted by the Great Dam Helps Drive Lawrence's Mammoth Textile and Paper Mills

[illegible]

Manchester MHS To Tell the Story of the City That Refused to Die

[illegible]



Two Thousand Pairs of Hands Could Knit No More Fabric than This Steel Automaton

[illegible]

[illegible] Mount Washington [illegible] Franklin, but [illegible] Mount Washington [illegible] Franklin.

In [illegible] nitting machine [illegible] a [illegible] in the construction of the national road [illegible] up Mount Washington in 1851 and [illegible] since.

[illegible] New Hampshire [illegible] Franklin lived there as a boy, and [illegible] 13 miles to the south. This [illegible] Franklin [illegible] Franklin [illegible].

The house in which he lived as a child [illegible] the main road [illegible] Franklin [illegible] Franklin [illegible] Franklin [illegible] great American philosophers [illegible].

At that time [illegible] the country [illegible] Franklin [illegible] Washington [illegible] the [illegible] [illegible].

[illegible] the American [illegible] come to Concord [illegible] Franklin [illegible]

Stout Oak Timbers of "Francis's Folly" Twice Saved Lowell, Massachusetts, from Flood

[illegible]

of orderly progress and well-being, befitting a city which is the State's governmental, industrial, and transportation center. It is reasonably industrial, has many its private institutions—religious, educational, and fraternal—and [illegible] well.

In Capital Square [illegible] and [illegible] dignified [illegible] and [illegible] buildings. The Capitol itself [illegible] a State office building, the State library, city public library, New Hampshire Historical Society, city hall, post office, and churches.

New Hampshire Legislature Country's Largest

The fact that New Hampshire's population is small and its [illegible] in the Union means that during the session Main Street and the Eagle Hotel, the [illegible] of Winston Churchill's novel, *Coniston*, take on the [illegible] of [illegible] week.

Even now the lower house runs to 400 [illegible] the constitutional [illegible] of 1941 it totaled 455, [illegible] with [illegible] in the authorities of State. [illegible] New Hampshire [illegible] as a political unit, and there are more than [illegible] of [illegible]

[illegible] to reduce the unwieldy size of the General Court [illegible] the cities which do not well to [illegible] representatives, [illegible] the little towns, which [illegible] to [illegible] one member.

The peculiar feature of New Hampshire government is both good and bad. It brings government close to the people, but on the other hand it brings some not too [illegible] [illegible] into the lower house.

Contoocook has one [illegible] to [illegible] of which, [illegible] of this writer, it does not make [illegible]. New Hampshire inaugurated the most important government of modern times because it was the ninth State to ratify the

Miners, Bandits, Stage Beauties, and Royalty All Rode the Concord Coach

[illegible] the firm of Lewis Downing and Stephen Abbot built more than [illegible] in Concord, New Hampshire. Stagecoaches [illegible] from Boston to Maine, Australia, and South Africa. [illegible] West carried passengers [illegible] Fort Kearney, Nebraska, [illegible] Pennsylvania, Florida, and New Hampshire pioneer [illegible] The [illegible] and [illegible] Dodge, Wyoming, [illegible] Concord.

Concord [illegible] the United States [illegible] the most [illegible] The [illegible] Concord [illegible] Eastern [illegible] Concord were [illegible], took place June 21, [illegible].

The largest industry in Concord is the Rumford Press, which prints some [illegible] including the [illegible] *Monthly* and half of the American edition of *Reader's Digest*. It is unusual for a printer in a small city, remote from metropolitan centers, to have [illegible] employees, but the Rumford Press has [illegible] grown with the *Reader's Digest*.

"Ancestors of Railway Carriages"

A former major Concord industry, in fact one of the great pioneers of American [illegible] was the coachbuilding of [illegible] which continued until after the Civil War [illegible].

Lewis Downing, a wheelwright, went to Concord in [illegible] and became Abbot-Downing [illegible] most coach builder, as described in detail in a publication of the New Hampshire Historical Society.

"No American product ever gained a wider [illegible] or more great after service than this Concord Coach . . . To him (Downing) we may well look back with pride, for out of his [illegible] shed were evolved the direct ancestors of railway carriages, motor cars, and aircraft."

These coaches were used by Wells, Fargo & Company to carry the material [illegible] to open up the West. Most famous was the Deadwood Stage Coach, which Buffalo Bill later exhibited throughout the world.

An interesting Concord institution is St. Paul's School, affiliated with the Episcopal Church, and one of the best known preparatory schools for Harvard, Yale, and Princeton. [illegible] 500 acres of woods and open country, two miles from the city, with

Nylons Take Shape on High-speed, Steam-heated Legs

[illegible] the Lady Textile, [illegible] flowing through the property of the Merrimack.

Concentration of textile mills in these [illegible] spots, especially Lowell, the country's first [illegible] largely based on or near the [illegible] of Waltham [illegible] 1851.

Mary Baker Eddy, founder of Christian Science, was born [illegible] miles from Concord and later lived in the capital for a number of years. Her birthplace is marked by a small permanent [illegible]

The Boott Hydro-electric [illegible] the [illegible] Chapter, the golden [illegible] childhood [illegible]

Eleven miles below Concord [illegible] Amoskeag Falls on the Merrimack, has developed New Hampshire's largest city, Manchester, containing one-sixth the population of the state.

John Stark, famous Indian fighter and hero of the battles of Bunker Hill and Bennington, was born on a commanding bluff overlooking the falls. The site of his birthplace, the house in which he lived for a number of years, and his grave are relatively [illegible]

Stark lived to the age of [illegible] and was [illegible] Revolution. He [illegible] rebel force for a reserve to [illegible] "Live free or die."

He called [illegible] by any name that came into his head. His wife's name was Elizabeth but [illegible] in history as Molly Stark because [illegible] just before the Battle of Bennington he [illegible] "Look at the enemy, boys, or Molly Stark's [illegible] widow."

In the library in the town of New Boston, 15 miles west of Manchester, is the famous Molly Stark gun, a cannon presented to General Stark at Bennington. Later in Paris it was [illegible] the British, recaptured by them from the

Fingers Reverse Errors of Mechanical Looms; Pacific Mills, Lawrence, Massachusetts

[illegible]

Americans in the War of 1812, retaliating, the Americans [illegible] in the same war, and [illegible] over to the New Boston Artillery Company (page 1[illegible]).

This company now meets once a year, [illegible] the cannon. [illegible]

Valley Towns Once Indian Settlements

All the larger communities in the Merrimack Valley are [illegible] on Indian villages or fishing stations, the most important ones near falls in the river. It is estimated that eight or ten thousand Indians lived in the valley prior to the [illegible] epidemics of the [illegible]. They and the white settlers who displaced them depended to a large extent for food upon fish caught at the falls.

As late as 17[illegible] [illegible] were caught [illegible] according to a local newspaper.

An early name for what is now Manchester was Derryfield, and it was said that at one time [illegible], known as "Derryfield beef," were [illegible] of cattle.

But as the various falls in the Merrimack were turned to the use of industry, [illegible], eels, shad, and salmon disappeared.

At Manchester we began to encounter those giant mills that have so long characterized the lower reaches of the river valley.

On both sides of the river [illegible] are several [illegible] mill buildings, several rows deep (page 11[illegible]). Until [illegible] in 1936 these were owned and operated by the Amoskeag Manufacturing Company, at one time the largest textile plant in one concentration in the world.

Entirely apart from its manufacturing plants, the company owned [illegible] several [illegible]. It owned water rights [illegible] the river, a [illegible] system, a power system, and a water system

Where Power-Jet Falls Once Roared, Factory Boards Hold Back the Merrimack

[illegible]

[illegible] complications and troubles of the [illegible] organization to adjust its [illegible] [illegible] and [illegible] it with [illegible] action. The company had [illegible] and paid a large [illegible]

[illegible] closing, a group of [illegible] 0, half a million [illegible] within a few [illegible] company, Amoskeag [illegible] The wealthiest citizen, [illegible] years old, [illegible] in stock, the [illegible] company the [illegible] banks [illegible] power [illegible] and [illegible] caught the water rights.

The [illegible] their investment, and the [illegible] for a while; the population [illegible] relief in Manchester in [illegible] and 1938 was excedingly high. [illegible]

[illegible] a street corner [illegible] long buildings. [illegible] electrical instruments, [illegible] metal products [illegible] wooden [illegible] dresses, men's clothes [illegible] suitcases and [illegible] caps.

[illegible] their investment, stockholders in Amoskeag Industries, Inc., have profited, and, although practically liquidated out of the yard itself, remain actively in busi-

ness, a civic-minded group ready with their capital to promote the interests of the community.

Manchester a Shoemaking Center

One of the country's chief shoemaking centers, in addition to its other manufacturing interests, Manchester is essentially an industrial city. Yet it strikes the observer as clean, orderly, and law abiding. Much of its population is of French-Canadian descent, and many of the city's mayors have been from this group.

Fifteen miles south of Manchester, on the west bank of the river a few miles from the Massachusetts line, is Nashua, second ranking industrial city of New Hampshire. As in Manchester, approximately half the population is of Franco-American stock.

One modern descendant of an early effort of several Nashua residents to supply the California gold miners of 1849 with playing cards is the Nashua Gummed and Coated Paper Company, known locally as "The Card Shop."

It is among the country's large converters of cellophane, cloth, and paper into a wide variety of products for packaging, box making, and paper specialties. One of its chief products is waxed paper, of major importance, however, only since the invention of the bread-wrapping machine.

At one time the Nashua Manufacturing Company was the largest maker of blankets in the world, giving employment to one-fifth of the city's workers; but a few years ago new owners closed down much of the 125-year-old Nashua operation, thus presenting the city with a problem not unlike the earlier one in Manchester.

Local business, industrial, and labor leaders organized the non-profit Nashua-New Hampshire Foundation Trust to take over the old buildings, and have succeeded in leasing or selling much of the space to manufacturers of various products, such as shoes, hardware, and textile machinery parts.

Across the river, three miles from Nashua, near Hudson, New Hampshire, is Benson's Wild Animal Farm, combination circus, zoo, and amusement park. Roadside zoos have become an important industry, especially in Florida, but this particular one is of metropolitan size, despite its rural location.

The late John T. Benson was American agent for the German animal firm of Hagenbeck. He started the farm as a health resort for show people, but changed it over into a quarantine station for bringing animals into the country from Hagenbeck and selling them. Curiosity on the part of passing motorists and neighbors early led to charging admission, and the place has long been primarily a commercial show (pages 130 and 131). I visited it on a Monday and learned that 12,000 persons paid admission the day before.

A few miles below the point where the Merrimack enters Massachusetts it turns eastward toward Pawtucket Falls (page 117), one of the first water powers in America to be used on an extensive scale to operate power looms.* Below the falls it is joined by the Concord River.

At this site was built the city of Lowell, first instance in America of the deliberate creation of a city primarily of the industrial type, although there are others with older established mills.

Miles of canals, which divert water from the dam to factory mill wheels, crisscross the city. The chief business district lies within a belt of factories which almost encircles it.

The century-old mills, with their cupolas and towers, and the simple but well-proportioned tenements and boardinghouses have about them an architectural dignity that fits into the original ample city plan.

Beginnings of Cotton Manufacture in America

Francis Cabot Lowell, among whose descendants were the famous Amy and Percival, went to England in 1810, and, impressed by manufacturing as a source of wealth, returned to this country to give tremendous impetus to cotton manufacturing in America.

It was illegal to export models, parts, or even drawings of textile machinery from England, and Lowell had only imperfect recollection of what he had seen. But in Waltham, Massachusetts, he established the first mill in this country in which cloth was completely manufactured under one roof. Since more water power was needed for the operation, the Pawtucket Falls on the Merrimack were selected, and the new city built and, nine years after his death, named for Lowell.

Household spinning and weaving were no longer adequate to clothe the American people, the Merrimack had plenty of water power, Boston merchants had ample capital, and an enormous supply of labor was available in the daughters of Massachusetts and New Hampshire farmers.

Francis Lowell had been so shocked by the poverty of English mill labor that he instituted a system of community, paternalistic, com-

* See "Massachusetts—Beehive of Business," by [illegible] Magazine, March, [illegible]

Woman Scalps Indians: Hooped Dress Made News in Haverhill, Massachusetts

[illegible]

[illegible] gaily painted housing and supervision of the [illegible] lives of the mill hands that worked at [illegible] mundane and [illegible] tasks.

But gradually the happy lives—[illegible] mill hands—[illegible] or migrated with their families. The great mills along the Merrimack fell into absentee ownership and today Lowell's population is predominately foreign born or second generation.

Lowell reached its peak as one of the world's great textile centers just after World War I. Each Merrimack Valley city is now struggling mightily for diversification in industry, but the region as a whole continues to hold important elements of the textile industry, the [illegible] Merrimack Manufacturing Company [illegible] Textile Corporation.

The most dramatic event in the history of Lowell can be symbolized by saying the Francis Hydraulic [illegible] Francis B. Lowell [illegible] more than a century ago the [illegible] chief engineer of the [illegible] on the Locks and Canals on Merrimack River [illegible]

To prevent the recurrence of disaster such as was caused by early floods, James B. Francis built this gate in 1855. It is a huge affair of solid rock, as [illegible] as if in a medieval castle. [illegible] and [illegible] granite, and is suspended by a single chain.

On a near-by beam Francis placed a box in which he put cold chisels and hammers to cut the link so that no time would be lost if catastrophe struck.

Unfortunately many of Mr. Francis's contemporaries did not appreciate the wisdom and foresight of their hard-pressed and hard-working chief. His gate was greeted with scorn and derision. By some his work was called "Francis's Folly."

"Francis's Folly" Saves Lowell

But the engineer was vindicated in 1852 when the gate helped save the city from flood.

Then in March, 1936, nearly 90 years later, the treacherous Merrimack went on its worst rampage, the gate was lowered and, together with other protective works, held back a 20-foot wall of water, thus saving the city.

In the old office of the Locks and Canals, reminiscent of Dickens's description of London of long ago, I looked at portraits of Mr. Francis and of another chief engineer of the company, George W. Whistler, father of the famous artist, James McNeill Whistler, whose birthplace, a block away, is open to the public.

On a high bank overlooking the rapids of Pawtucket Falls stands the Lowell Textile Institute, a growing institution, for while old textile mills may close down in certain localities, the industry as a whole is constantly broadening its sweep, with new materials, new products, and new uses.

The Institute's reputation brings it students from as far away as China, India, Turkey, Greece, Egypt, and South America. With extensive pilot plants for vocational training, there is also emphasis upon the fundamental background of the basic sciences, and stress upon textile engineering and chemistry.

Lawrence, 9 miles beyond Lowell, is another city which wealthy Boston merchant families, headed by a Lawrence rather than a Lowell, made to order, for here was another site where the river could be used over and over again to run the mills. Newer than Lowell, it is a century old at that, but the huge granite blocks of its great dam seem as firm as ever.

Lawrence Country's Foremost Worsted Center

Lawrence is the country's foremost worsted manufacturing center, retaining its predominance in this field to a greater extent than other New England cities have kept their cotton textile position (page 110).

The Essex Company originally bought the land, laid out the streets, and built the dam, canals, and many of the houses and mills. It still bills a number of the great manufacturing concerns for the rent of so many "mill powers for one year at 200 ounces of silver at 900 fine, or the equivalent."

In other words, silver was regarded as the one stable form of payment a century ago, and water power is still being paid for in Lawrence by a number of users in the equivalent of silver.

The Wood Worsted Mill of the American Woolen Company is the largest mill in Lawrence and the largest worsted mill in the world. Although only one of more than 20 mills of the American Woolen Company, it uses the annual clip of 200,000 sheep a week, covers 68 acres, employs 7,000 persons, and produces 6,000 miles of cloth a year, as well as providing yarn and top for other mills of the company.

But the mills of the American Woolen Company are not the only monsters of their kind in Lawrence; the Pacific Mills (page 116) and the Arlington Division of William Whitman Company, Inc., are large producers of worsteds. In fact, the Arlington mills use the fleece of 28,000 sheep per day.

Lawrence has had its tragedies. On January 10, 1860, the Pemberton Mill, with 900 employees, collapsed without warning, killing 88 outright and injuring many.

Since the far-famed and disastrous strike of the Industrial Workers of the World in 1912, labor conditions seem to have been peaceful, and the Americanization of Lawrence's enormous foreign population has gone on apace, members of second generation Italian stock occupying high positions in the professional and business life of the city.

Despite its large industries and population, Lawrence covers a very small area. Fortunately many of the mill workers live in rural or semi-rural surroundings in near-by towns.

Maker of National Geographic Paper

An important Lawrence industry is the Champion-International Company, which long has enjoyed the reputation of making the highest quality of coated paper (pages 132 and 133). Among its customers is the National Geographic Society, which uses upwards of 120 freight carloads a year, or nearly 11,000 tons.

The National Geographic Magazine was one of the first periodicals to use a superior quality of coated paper, and such paper has contributed largely to the unsurpassed reproduction of its illustrations in color and black and white and to its typographical appearance.

In fact, the National Geographic pioneered in the use of fine coated paper for every

Phillips Andover Academy's Elm-shaded Campus Has Welcomed 173 Classes of Freshmen

[illegible]

Where Whittier's River Meets the Sea—The Merrimack Ends Its Lovable Race at Newburyport, Massachusetts

[illegible]

Putting Aside Textbooks and Blackboards, Concord, New Hampshire, Students Study Nature on the Merrimack's Bluffs

From Profile Lake, "the Old Man's Wasabosel" Flows One of the Merrimack's Arms

Stern and Silent, New Hampshire's Old Man of the Mountains Stares into Eternity

Nature [illegible] Mountains [illegible]

Happy Children Picnic at Daniel Webster's Boyhood Home

Give Father a Gas Range. He Won't Touch a Pan. Give Him an Outdoor Oven. No One Else Can Do the Cooking

[illegible] Nice Hamburgers. [illegible] Mother makes a Marvelous [illegible] in the shape of [illegible] a pop-up [illegible] Mother's [illegible] pot-luck [illegible] Wilson [illegible]

Hiram Lowell & Sons for Seven Generations Has Built Boats Beside the Merrimack

[illegible]

Mercantile Hat Corporation Manufactures 12 Million Hat Bodies a Year

[illegible]

A Salesman's Pay, Fare and Its Rate, Is Not for Cadlecmokins but for Study

[illegible]

"Every Place Using Handscape as Motion, Place Between Supporting Frames"

[illegible]

"When We Have Apple Pie Tonight, Mom, Can We?"

[illegible]

Who Enjoys an Elephant Ride the Most—Gentle Beast, Seated Kids, or Nervous Parents?

Thump! Thump! Thump! Go the Tossed Logs. This Very Page May Have Come from These Pressed Papers

[illegible]

Better Business — Adds a Dash of Color . . . Colters Sheet Paper

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Red and Ivory Are the Birches in Transcript Notes Autumn's Air Is Warm

Mola Stock Garnered Four Games a Prize in Three Weeks Gets in Ireland

[illegible]

The Bladder on Water for Better St. Paul's School Places Line Is

[illegible]

▲ **Wear Gets the Shock Treatment: Insulation Is Tested Under Water**

[illegible]

▼ **For a Pair of Flashing Red Shoes, Rubber Tubes On a Deep Dive**

[illegible]

page—text, illustrations, and advertisements.

The National Geographic Society has bought its paper from the Champion-International Company since 1913.

Across the river in near-by North Andover I called on two granddaughters of Capt. Nathaniel Stevens, who started a woolen mill here in 1813. In fact, fourth and fifth generation descendants of Captain Nat now run the successor company, J. P. Stevens & Company, Inc., which operates more than 30 woolen, worsted, cotton, and rayon mills in different parts of the country and is one of the largest textile manufacturing companies in the world.

Between 1800 and 1815 many woolen mills were started as family enterprises. Each de- [illegible] sons to follow them, or the sons went into other occupations. By 1918 only three families, one of them the Stevens, carried on mills their forebears had started. Since then the Stevens have bought out the other two family interests.

Andover, which adjoins North Andover, is the seat of one of the two Phillips academies, which have played such a notable role in American life, the other being at Exeter, New Hampshire, 10 miles north of the Merrimack.

Phillips Academies Founded During Revolution

Both schools were founded during the American Revolution by the wealthy and patriotic Phillips family. Andover, slightly the older of the two, was founded by Samuel Phillips and his brother John, largely [illegible] the instance of Samuel Phillips, Jr., then only 20 years old and one of the few original minds in American education. John Phillips founded Exeter.

The two schools have a few slight differences and many striking similarities. Andover has a headmaster, Exeter a principal. Andover "hulls" tends toward a dignified elegant beauty (page 121). Exeter's beauty partakes more of the quiet, homey simplicity of a small, elm-shaded New England town.

But the buildings of both schools are finer and the campuses more extensive than those of many colleges and universities. Both have had great benefactors and each has a large endowment, low cost of tuition, many scholarships, large alumni body, large student body, and each draws from a large section of the population, socially and geographically.

Both also have had many famous graduates: Oliver Wendell Holmes and Samuel F. B. Morse went to Andover; Daniel Webster's father took him to Exeter on horseback. Each prepares for substantially the same universities, Yale and Harvard.

Used now as the Andover dean's house is the long-time home of Harriet Beecher Stowe, author of *Uncle Tom's Cabin*. On Main Street is the house, also the property of the Academy, in which a theological student, Samuel F. Smith, wrote *America*.

Young Smith earned his way by translating poems and songs. A musician sent him a patriotic song, accompanied by the music. While humming over the music Smith decided to write a patriotic song of his own, and dashed off the verses of *America*, virtually as they are now, in less than half an hour.

Seven miles from Lawrence is another industrial river city, Haverhill, shoe manufacturing center for 150 years, and still a center for women's shoes, especially the inexpensive, novelty type—a highly competitive, fluctuating business (opposite).

This is a very old settlement. The original Indian deed of 1642 may be seen in the archives of the Haverhill Historical Society; also the Haverhill petition of 1842, asking for the dissolution of the Union, this having been a short-lived attempt to meet Southern secessionists on their own ground.

R. H. Macy, who founded the great New York department store, began his business in Haverhill in 1851, and at that early date advertised bargains.

For more than half a century in early days Haverhill settlers tilled their fields with muskets always handy and a wary eye for attacking Indians; there was even talk of abandoning the settlement.

On March 15, 1697, Thomas Duston was working on his farm when hostile Indians attacked. His wife, Hannah, had given birth to a child only a few days before and lay ill [illegible]. He tried to rescue her, but the Indians got between him and the house. Exchanging fire with them, he shepherded his other seven children, two to seventeen years old, to the nearest garrison.

The Indians went off with Hannah, her nurse, Mary Neff, and the infant, whom, however, they quickly killed. Hannah and Mary were taken to a small island in the Merrimack River, a few miles north of Concord, where there were 12 Indians and a young captive 14 year-old Samuel Leonardson, who had learned to speak the Indian dialect. Hannah instructed him to find out from the Indians the easiest way to kill and scalp a person.

One night the three captives, led by Hannah, killed and scalped 10 of the Indians, escaped and eventually reached Haverhill. Considered by many an improbable tale, the story has

A New Hampshire Adam Offers an Apple to an Eve

[illegible]

[illegible] evidence to convince it. [illegible] commences from the moment of the [illegible] to Hanover to claim a [illegible]. Women [illegible] Dartmouth told me [illegible] of the New [illegible] Mother [illegible] and [illegible] of a [illegible].

[illegible] evidence [illegible] from the Council Chamber [illegible] 28 [illegible] to Hanover [illegible] Mary [illegible] Dartmouth [illegible] of Massachusetts.

First American Mountaineer—a Woman

When [illegible] the [illegible] Dartmouth [illegible] Hanover [illegible] Hanover [illegible] in the [illegible] of the river.

[illegible] Hanover [illegible] seen on the Hanover Street in Hanover [illegible] the Dartmouth Female Academy [illegible].

Most of Mount Washington [illegible] Massachusetts and New Hampshire [illegible] the [illegible] Mount Washington [illegible] Mount Washington [illegible] today.

The [illegible] in an [illegible] the outskirts of Hanover [illegible] to [illegible] Dartmouth [illegible] Hanover [illegible] Academy, [illegible] [illegible] Mount Washington [illegible] [illegible].

[illegible] Mount Washington [illegible] Mount Washington [illegible] Mount Washington [illegible] Mount Washington was [illegible] 1903. [illegible] the [illegible] *Harper's*.

[illegible]

They Made the Fair, but Not the Prize Winners' List

[illegible] south-drawn [illegible] Quaker [illegible] They watch [illegible] costumes.

[illegible] much as it did during the poet's life-[illegible] Whittier fought it because of its near-[illegible] a severe, unadorned Friends' meeting [illegible] As I sat in the meetinghouse, there [illegible] came to me insistently two lines of the poet's [illegible]

> [illegible]
> [illegible]

As a matter of fact, it is only his semiretirement, especially after the Civil War, that gives us the picture of the "good, gray poet," [illegible] man with a long, white beard. In [illegible] years Whittier was the supremely [illegible] and effective antislavery editor and agitator. He exerted an influence upon American [illegible] which it is difficult to find a comparable [illegible] among poets.

[illegible] days such superb pine [illegible] from the Merrimack that [illegible] The great logs were [illegible] the rivers. The British Crown marked the finest pines for the use of its navy [illegible] of the [illegible] and the so-called "pine tree laws" were a contributing cause of the Revolution.

So valuable were some of the logs for masts that the loss of a single one could almost ruin its owner. At any rate Haverhill, at the head of navigation, and Amesbury, and Newburyport, near the mouth of the river, constituted in and after Revolutionary times one of New England's chief shipbuilding centers. At least 1,115 vessels were built in these three communities between 1793 and 1815.

Birthplace of Frigate *Alliance*

The most famous ship built in the area was the Continental frigate *Alliance*, which took part in the last sea fight of the Revolution. A few hand built, small boats are still made in sheds in the vicinity (page [illegible]).

At one time great numbers of carriages, noted for style and finish, were built in Amesbury and near-by Merrimac. Auto[illegible] bodies were made for a short time, but that [illegible] came to an end in 1[illegible].

One of Amesbury's old industries has continued and grown. Here is the headquarters of the Merrimac Hat Corporation, whose plants in Amesbury and elsewhere turn out 12 million hat bodies and trimmed hats in a single year (page 129).

Late in summer I rode along the unfrequented River and Pleasant Valley Roads between Merrimacport and Amesbury, both shores of the river ablaze with purple boneset-style and goldenrod.

The river is, beyond question, seriously polluted by chemicals from hundreds of mills, but the banks, even near the great industrial cities, are singularly green and unspoiled. Whittier, who looked askance upon his valley's rapid industrialization, would be happy to know that this much, at least, is saved.

Newburyport, three miles from the mouth of the Merrimack, is long and narrow and runs parallel to the river. Those who lived in the northwestern portion of this historic strip long were known as "upalongers" and those who lived in the other direction as "downdongers."

When it was separated from ancient Newbury in 1764, Newburyport was the smallest town in area in Massachusetts; indeed the jocose saying went that there was no place in the city "from which a strong runner cannot reach the river in three minutes."

Along the entire length of High Street, which runs several miles from one end of the city to the other, is perhaps the largest and most notable collection of square, well-proportioned, three-story 18th-century houses to be found anywhere in the country (page 127).

Similar houses are to be found elsewhere, but nowhere else are they more beautifully on parade, with their deep lawns and many trees. At any rate, the city maintains an unmistakable flavor of long-gone maritime greatness, perhaps because much of it is so well preserved that memories of the "wealth, taste, and elegance" noted by famous early visitors still linger.

Famous Sons of Newburyport

Boston drew several of its great families, including the Lowells, from Newburyport, and numerous famous men were born, lived or died there.

Among these were William Lloyd Garrison, the abolitionist; Maj. Gen. A. W. Greely, distinguished Arctic explorer, one of the founders of the National Geographic Society and for 43 years a member of its Board of Trustees; and Dr. Edwin A. Grosvenor, historian, linguist, archeologist, author, and poet and father of Dr. Gilbert Grosvenor, President of the National Geographic Society.

In a vault under the First Presbyterian Church are the remains of George Whitefield, who ranked close to John Wesley as a proponent of Methodism. He preached 18,000 sermons, and the founding of such colleges as Princeton, Dartmouth, Brown, and Rutgers was partly due to the "Great Awakening" he inspired.

Age has its place in Newburyport. I called on Henry Bailey Little, then 97 years old and for 50 years president of the Newburyport Institution for Savings. Asked if it were true that he goes to the bank every day, he replied in rather a huff, "I can only come five days a week because the bank is closed on Saturday, a great mistake."

Silver Company Descended from Blacksmith

The little old city has one very large and active industry near the river, the Towle Manufacturing Company, with 900 employees, engaged in making sterling silver (page 129). This business has increased several fold in the last 10 years as larger and larger segments of the feminine population buy fine silver, sterling being as nearly solid silver as will stand wear and tear.

There are some 80 processes in the long operation of making a knife, fork, or spoon. The first is to cut blanks from great slabs of silver, and the last is naturally the final polishing.

The Towle Manufacturing Company is the direct successor of one William Moulton, who in 1690 set up as a black-and-white smith in Newbury, which means that in addition to the usual blacksmith work he fashioned metals, including silver.

For more than a century the Merrimack has been the very symbol of a prosaic, hard working river, the drudge of industry. Yet much of its course, from mountain to sea, is marked by charm and actual beauty, now even as in the days of the early settlers.

Passing Newburyport, the river broadens out, and before it flows between two breakwaters into the sea, it is flanked by far-flung salt marshes, on the north and south shores alike.

Whittier spoke of seeing "The far, low coastline stretch away to where our river meets the sea," and as the last few months of his long life neared their end he gazed more and more upon the serene beauty of these great salt [illegible]

For additional [illegible]

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ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

In carrying out the purposes for which it was founded eighty-three years ago, the National Geographic Society publishes this Magazine monthly. All receipts are invested in The Magazine, which is expected to pay its way [illegible]

Articles and photographs are desired. For material The Magazine does [illegible]

In addition to the editorial and photographic services [illegible] are made. The Society [illegible] scientific expeditions [illegible] years of field work [illegible]

The Society's notable expeditions have marked back the historic [illegible] of the wilderness of United States to a period nearly eight centuries before Columbus sailed the Atlantic. By dating the ruins of the vast commercial dwellings in Cliff Dwellers [illegible] they [illegible]

[illegible]

[illegible] Magazine photographs [illegible] with a [illegible] Society [illegible] expedition [illegible] Mexico and [illegible] of early American [illegible]

[illegible] a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, Explorer II, ascended to the world altitude record of 72,395 feet. Captain Albert W. Stevens and Captain Orvil A. Anderson took with them [illegible] scientific instruments and [illegible]

A notable [illegible] is in the nature of [illegible] launched in 1929 by The Society in cooperation with the Palomar Observatory of the [illegible] This project will [illegible] to photograph the vast reaches of [illegible] and will provide the first sky atlas for observatories all over the world.

In 1928 The Society [illegible] expeditions to [illegible] showing a [illegible] the Indian [illegible] of North America and Asia.

The Society grants $25,000 and in addition $75,000 [illegible] to help preserve [illegible]

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[illegible]

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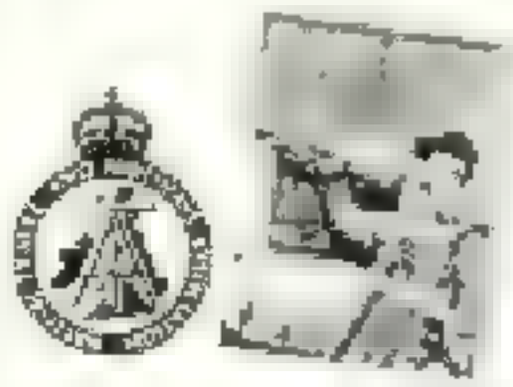
Whenever you come . . . wherever you go you'll find more than ever to see and do!

* * *

Wherever you shop . . . whatever you buy . . . you'll find that your dollar goes farther!

WALK THROUGH HISTORY'S PAGES, [illegible]



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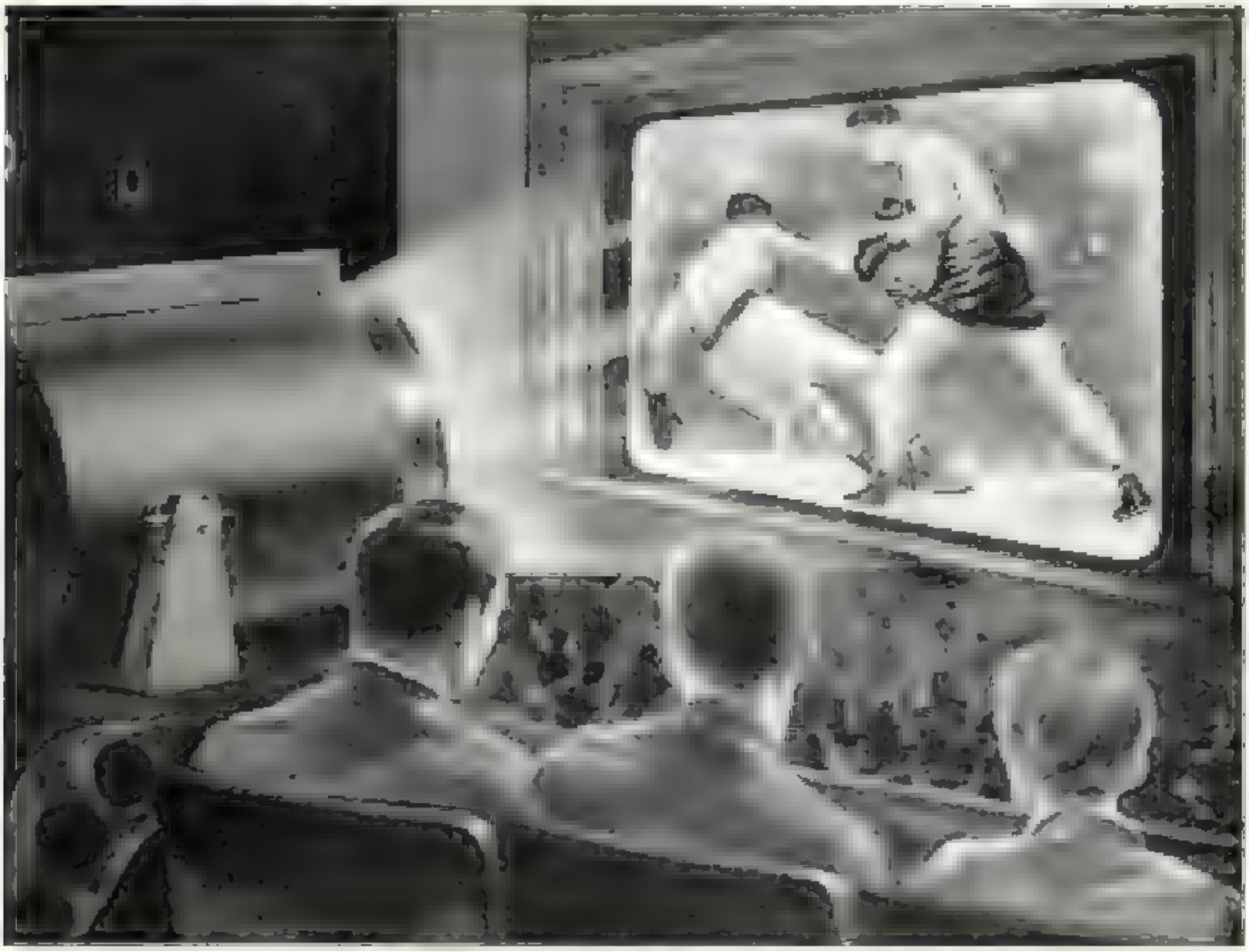

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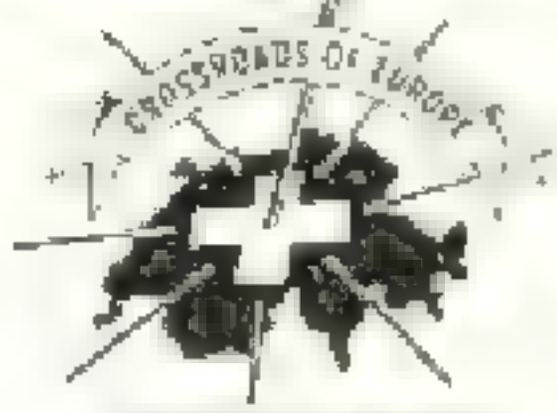

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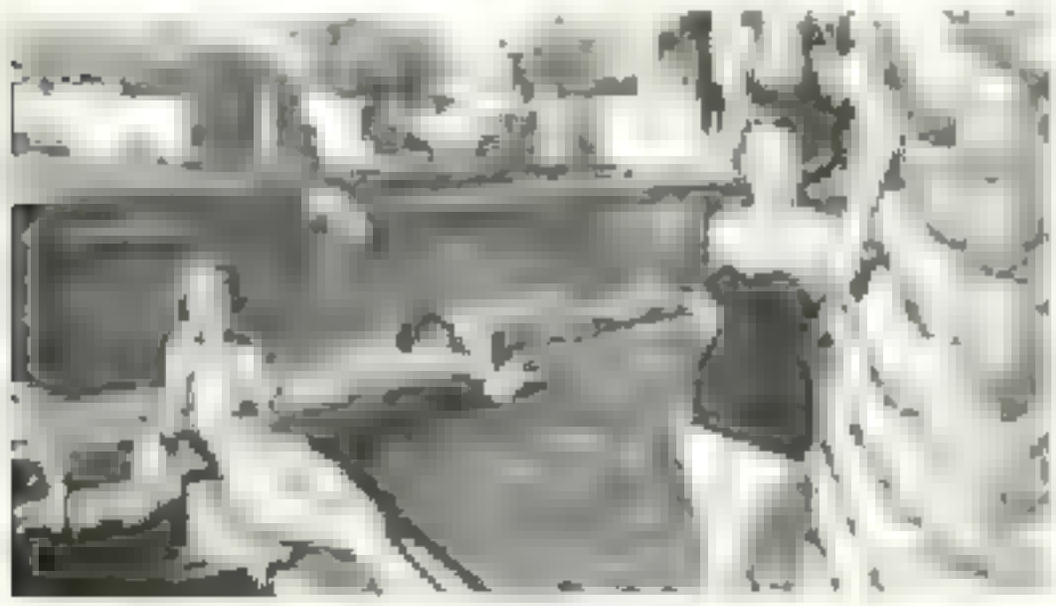

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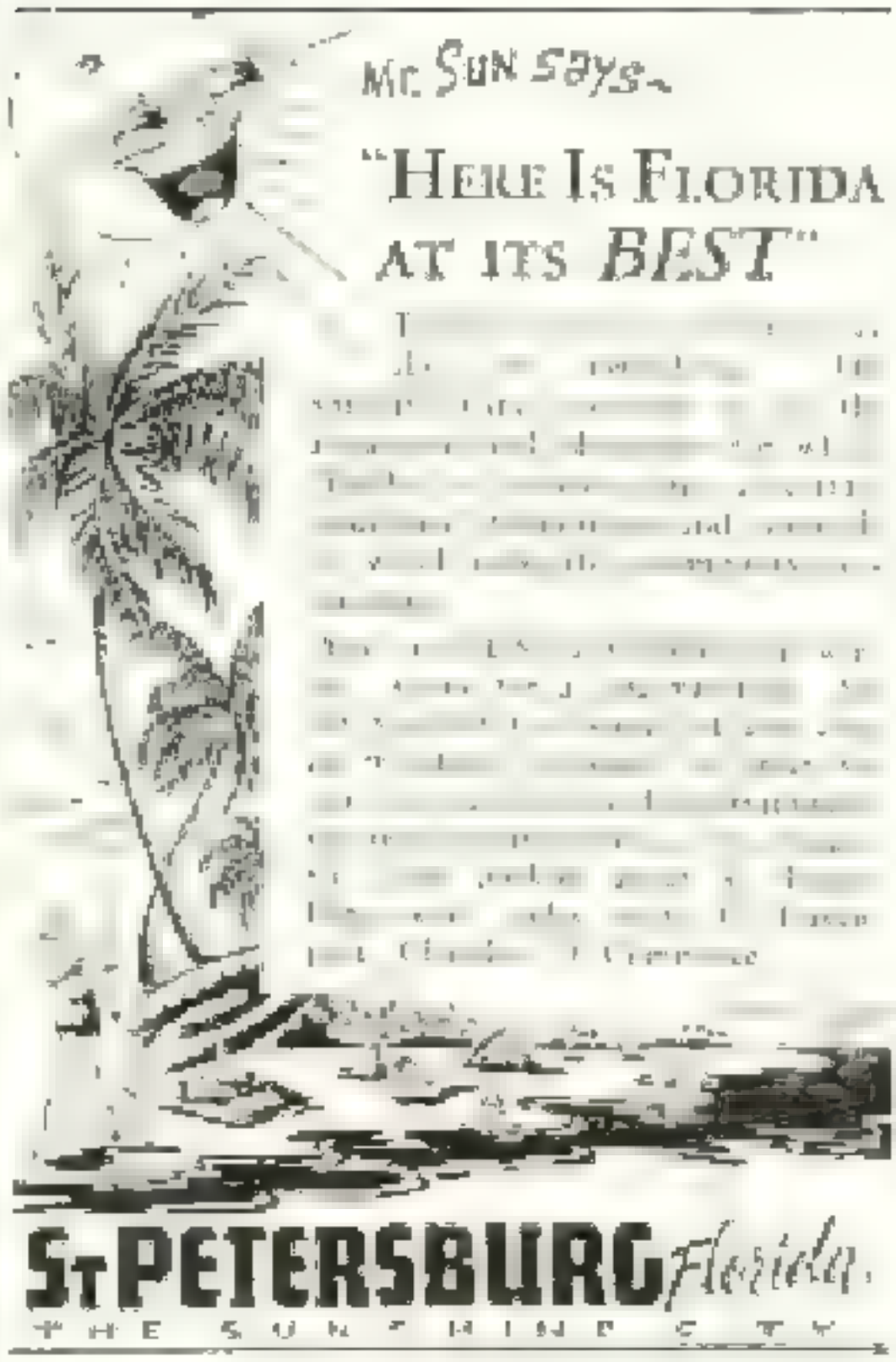

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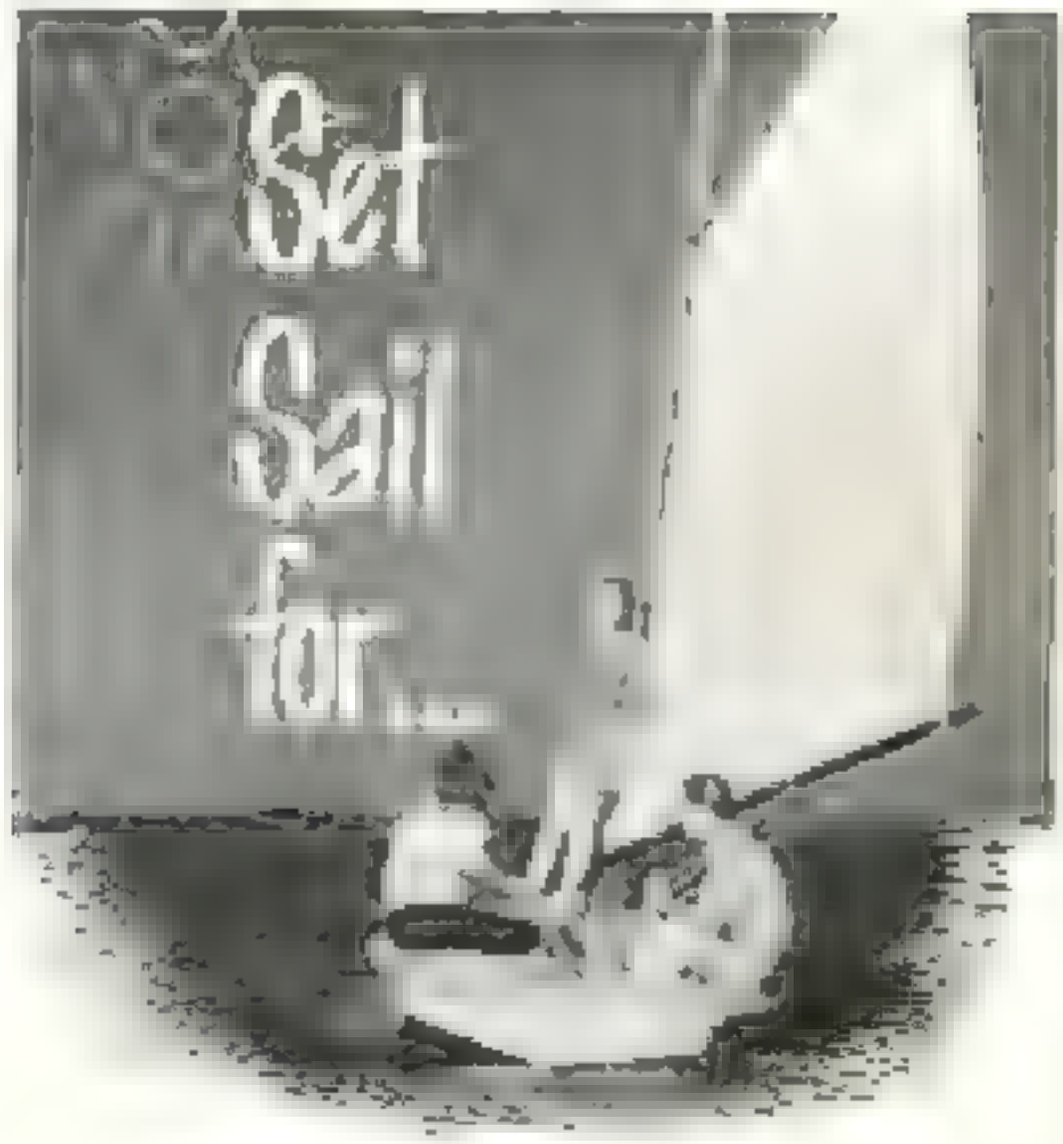

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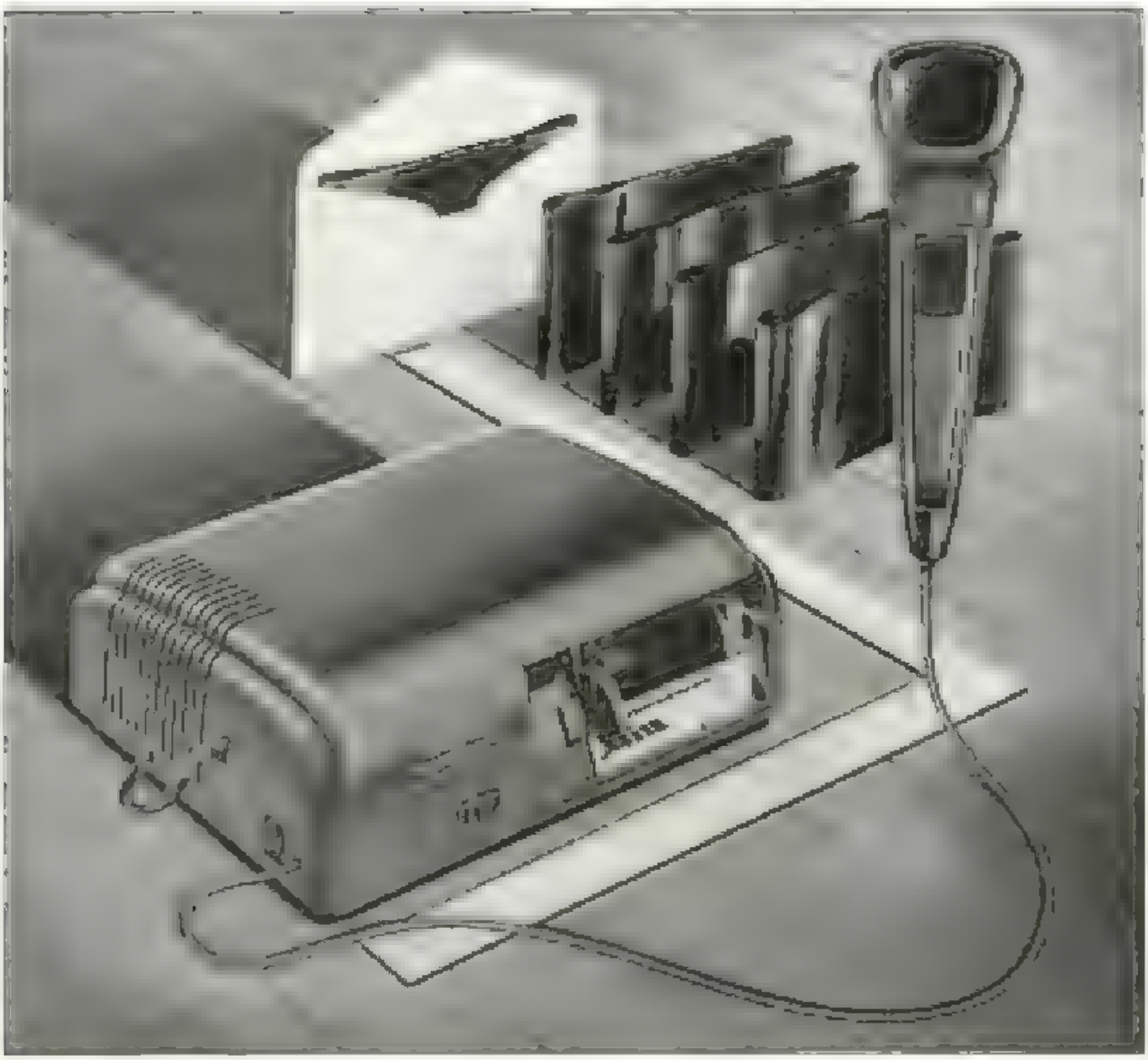

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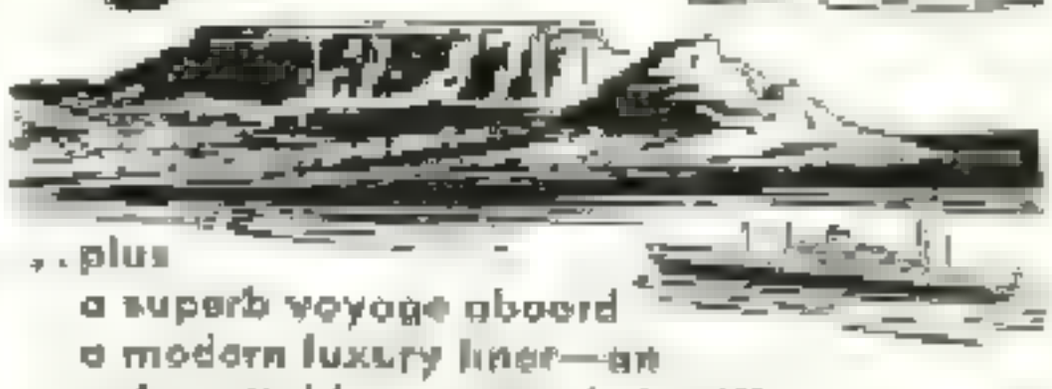

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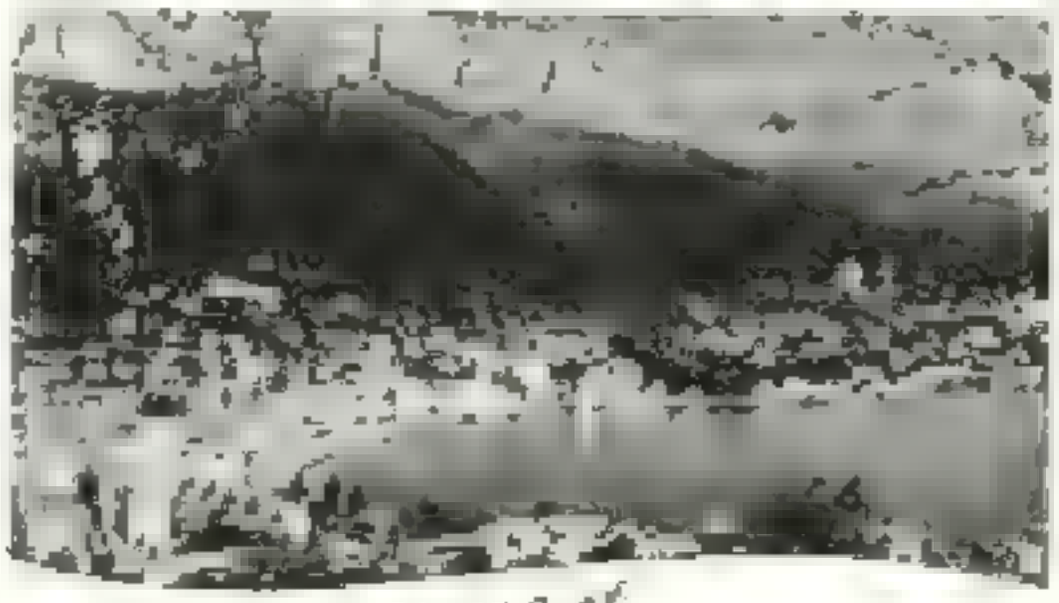

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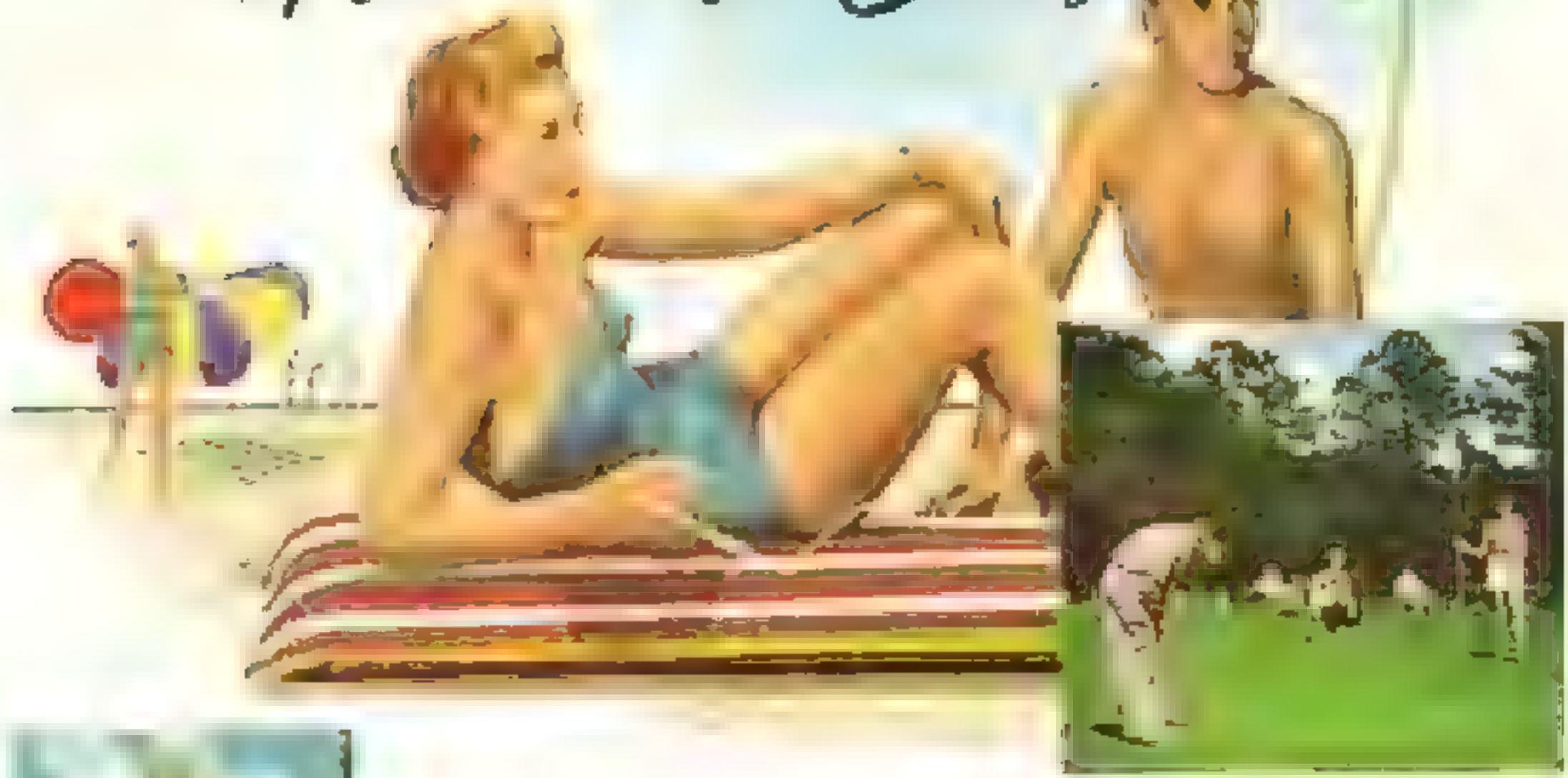

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RESULT: *Pneumonia set in, and he lost several weeks' time from work.*

This Woman Didn't...

This woman caught a cold . . . when her temperature went up she called the doctor promptly . . . and followed his advice.

RESULT: *The cold cleared up, and she was back on the job in three days.*

To speed recovery from a cold and to help relieve discomfort, doctors recommend rest and a light nourishing diet, including plenty of water and fruit juices. This helps the body overcome the infection.

The danger of neglecting a cold lies chiefly in the fact that body resistance is lowered and serious infections may develop.

Pneumonia, especially, is likely to strike when a person is tired or run-down because of a persistent cold. In fact, it has been estimated that colds are the starting point for nine out of ten cases of pneumonia.

Although the death rate for pneumonia has been greatly reduced, this disease—and its ally, influenza—still claims about 50,000 lives each year in our country. Authorities say that the toll from pneumonia could be reduced still further if everyone would call the doctor immediately if any of these symptoms appear:

A severe shaking chill followed by fever.

Pain in the chest after coughing or deep breathing.

Coughing, particularly with the appearance of rust-colored sputum.

If pneumonia is discovered early, the chances for rapid recovery are much better now than in the past. This is because the new drugs which doctors prescribe usually are most effective when given at the start of the disease.

Immunization against some types of influenza and pneumonia has likewise helped to combat these diseases. Other respiratory ailments have also been brought under better control.

While medical science can now bring about more and quicker recoveries from the chief winter ailments, it is wise to guard against them. These measures may help:

Always take care of a cold promptly . . . if fever develops, call a doctor at once.

Keep physically fit, particularly during the winter months.

Get sufficient rest and sleep and eat a balanced daily diet.

Dress warmly when going out-of-doors, especially during damp, inclement weather.

Avoid people who cough or sneeze carelessly.

For more information about how to enjoy good health during the winter season by guarding against colds, influenza, and pneumonia, write for Metropolitan Free Booklet No. 11-N, "Respiratory Diseases."

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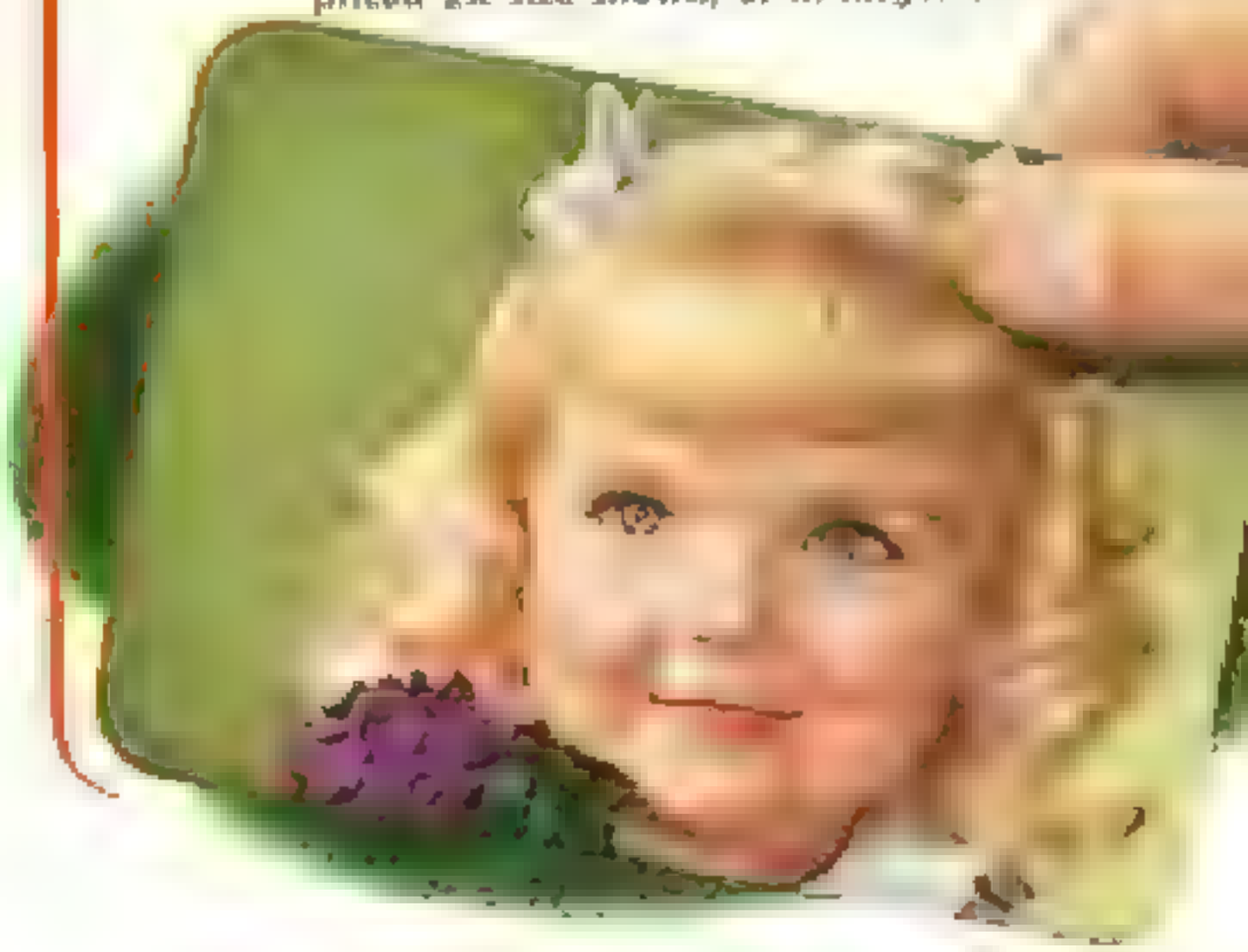

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